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IMPROVING VISIBILITY AND SALES CONTROL THROUGH CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM IMPLEMENTATION

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ABSTRACT

Ville Puustinen: Improving visibility and sales control through customer relationship management system implementation
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Customer relationship management (CRM) has a variety of different definitions. One widely accepted point of view to CRM is that it is a strategic approach to business focusing on the importance of creating better value for both the customers and the company's stakeholders through managing and improving customer relationships. The strategic approach to customer relationship management highlights the role of the whole organization wide participation in the customer-oriented business processes. CRM systems are technological solutions that support the processes related to customer relationship management. CRM systems can range from a simple database used for storing customer data to wider systems automating business processes, collecting customer data from different touch points and refining the data to information that can support decision-making.

The objective of this study is improving sales control and visibility through CRM system implementation. It consists of literature review of sales management's challenges and the different control methods that can be used. Customer relationship management, CRM systems and their implementation are also reviewed. A framework of CRM system's effects on demand visibility and sales control is formed. In the empirical part, a CRM system is implemented to a Finnish manufacturing company.

The study finds out that CRM system implementation can increase demand visibility (1) through improvements in external visibility through improved data gathering and information creation capabilities and (2) through improvements in internal integration by enhancing methods for cross-departmental communication and coordination. CRM system implementation can also improve sales management's control methods by giving the management better visibility to sales force's actions and outputs during the sales process.

As the result of the study a CRM system is implemented in the case company. As a result of the CRM system implementation sales management gained improved visibility to the sales pipeline and sales force's actions. Internal integration regarding the sales opportunities between departments was also improved. Additional ways of improving both demand visibility and control systems are recognized and suggestions for improvements are made.

Keywords: Customer relationship management, CRM systems, sales management, sales control, visibility

TIIVISTELMÄ

Ville Puustinen: Näkyvyyden ja myynninhallinnan parantaminen CRM-järjestelmän implementoinnin kautta
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Asiakkuuksienhallinta voidaan määritellä monella eri tavalla. Yksi yleisesti hyväksytty näkökulma asiakkuuksienhallintaan on se, että asiakkuuksienhallinta on strateginen lähestymistapa liiketoimintaan, missä keskitytään arvon luomiseen asiakkaalle sekä yritykselle itselleen asiakassuhteiden kehittämisen ja hallitsemisen kautta. Tämä strateginen lähestymistapa asiakkuuksienhallintaan korostaa koko organisaation osallistumista asiakaslähtöisiin prosesseihin. Asiakkuuksienhallintajärjestelmät ovat järjestelmiä, jotka tukevat näiden prosessien suorittamista. Yksinkertaisimmillaan asiakkuuksienhallintajärjestelmät voivat olla vain tietokantoja, joihin asiakasdataa varastoidaan. Laajemmat järjestelmät voivat automatisoida liiketoimintaprosesseja, kerätä asiakasdataa eri kosketuspisteistä ja jalostaa kerätystä datasta päätöksentekoa tukevaa tietoa.

Tämä tutkimus käsittelee myynnin ohjaamisen ja näkyvyyden parantamista asiakkuuksienhallintajärjestelmän käyttöönoton avulla. Työ koostuu kirjallisuuskatsauksesta myynnin johtamisen haasteisiin ja erilaisiin tapoihin, joilla myynninjohto voi ohjata myyntiä. Myös asiakkuuksienhallintaa, asiakkuuksienhallintajärjestelmiä ja niiden käyttöönottoa tarkastellaan kirjallisuuden perusteella. Kirjallisuuskatsauksen perusteella luotiin malli asiakkuuksienhallintajärjestelmien vaikutuksesta myynnin näkyvyyteen ja ohjaamiseen. Empiirisessä osassa tutkimusta asiakkuuksienhallintajärjestelmä otetaan käyttöön suomalaisessa teollisuusyrityksessä.

Tutkimuksessa saadaan selville, että asiakkuuksienhallintajärjestelmän käyttöönotto voi lisätä kysynnän näkyvyyttä (1) ulkoisen näkyvyyden parantamisella datan keräämisen ja tiedon luomisen menetelmien kehittämisen avulla ja (2) parantamalla sisäistä integraatiota osastojen välisen kommunikaation ja koordinoinnin kehittämisen myötä. CRM-järjestelmän käyttöönotto voi myös parantaa myynnin ohjausmenetelmiä antamalla johdolle paremman näkyvyyden myyntihenkilöstön toimintaan ja tuotoksiin myyntiprosessin aikana.

Kohdeyrityksessä otettiin käyttöön asiakkuuksienhallintajärjestelmä tutkimuksen tuloksena. Käyttöönoton seurauksena myynnin johdon näkyvyys myyntiputkeen ja myyntihenkilöstön toimiin parani. Myyntimahdollisuuksiin liittyvä osastojen välinen integraatio kehittyi. Lisäksi muita tapoja parantaa kysynnän näkyvyyttä ja myynnin ohjausjärjestelmiä havaitaan ja kehitysehdotuksia esitetään.

Avainsanat: Asiakkuuksienhallinta, asiakkuuksienhallintajärjestelmät, myynnin johtaminen, myynnin ohjausjärjestelmät, näkyvyys

PREFACE

Finally finishing this thesis has left me feeling like winning 1-0 win against the worst team in the league having been overplayed for 90 minutes and winning by a lucky goal. Even though it's a victory, you cannot really enjoy the victory because of the performance. Luckily, at the end of the season no one remembers the performances and winning after a good performance or bad performance is worth exactly the same three points.

Writing this thesis was ~~an exciting~~ a frustrating and unpleasant experience. Moments of enthusiasm were few and fleeting. Fortunately, it is over now and hopefully I'll forget the performance and remember only the result soon.

Tampere, 20 May 2019

Ville Puustinen

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1. INTRODUCTION

1.1 Background

Even though there are loads of literature about customer relationship management (CRM), a common and widely-adopted definition of CRM is still missing. For example, Payne (2006) defines CRM as a business strategy with a focus on managing and maintaining profitable customer relationships and Raman et al. (2006) define it as a technology-enabled business management tool for developing and leveraging customer knowledge – to maintain and strengthen profitable relationships. Most of the literature seem to understand CRM as a combination of customer-centric business processes and an IT system that supports these processes.

CRM systems, or CRM technologies, link the customer facing functions of the company to the back-office functions. CRM systems should integrate all the customer touch points, which often are managed by different information systems according to Chen and Popovich (2003). Typically, the CRM systems have three types of uses: operational, collaborative or analytical. Payne (2006) describes the difference between systems followingly: an operational CRM system automates or improves some of the customer facing business processes previously carried out by sales personnel. Collaborative use means that data gathered from different touch points can be accessed, modified and used by different persons or departments than the ones that have gathered it. Lastly, an analytical CRM system is designed to analyze the customer data and provide information to support decision-making.

CRM system implementation is the process from realizing the need for a system to specifying the system requirements and ending in the end user adoption management phase. The failure rate of CRM projects is high, especially if they are only regarded as a purchase of a technological solution. Successful customer relationship management projects can result in competitive advantage for a company in multiple ways such as eliminating manual stages from the sales process, distributing information about the customer more efficiently, leading to better customer experience and providing the decision makers of the company more accurate and up-to-date data about the customers and sales pipeline.

This thesis intends to find out how to implement a CRM successfully. It tries to further explain how a CRM system can improve sales management's means of controlling the sales force and sales process and increase company's visibility of the demand chain.

1.2 Objective

The research problem of the thesis is:

> How can a CRM system implementation improve the company's visibility of the demand chain and the sales management's ability to manage the sales force and the sales process?

This study is based on a case study in a manufacturing company with most of its manufacturing and management functions located in Finland but with a worldwide market, sales personnel and distribution network spread out geographically. For some time, there have been problems with rest of the organization not receiving accurate information about customers, sales opportunities and upcoming projects from the front line and distributing this information efficiently internally.

Lack of accurate and timely information to the sales pipeline has made it difficult for management to plan, report and allocate resources for the projects. Management and engineering-, project scheduling-, purchasing- and production departments are often blindsided by new projects, do not have enough information to prepare themselves in advance or in the worst case are provided inaccurate information that causes setbacks in their work. On the contrary, also the information flow from the back office to sales personnel has also been slow and inaccurate at times and sometimes sales personnel do not know all the products they can offer or they have outdated information about the product range.

The company's owners have also started to demand more defined processes, stricter limitations on acceptable projects and overall more accountability on individual actions. Previously, sales personnel of the company have been allowed to work quite freely, with every sales person developing their own manners of working. The same applies to supporting personnel in the sales process. This has led to a kind of an isolation between sales, management and other departments.

There has not been a dedicated sales management system in the company. Instead information has been distributed via emails, excel- and word-files and by word of mouth. These are traditional and useful means, but limited in the sense that they are not the best either for collaboration, accessing the information afterwards or if a person has not been included in the distribution, by intent or by accident. They are also very much "silo-

systems” meaning that the same information needs to be introduced multiple times into different systems. This causes frustration especially in sales personnel who might have to fill out the customer quotation, internal specifications and forecast documents, email communication to different parties, customer purchase order and ERP system inputs for the same sales opportunity.

The organization decided to start tackling the problems described above by purchasing a customer relationship management (CRM) system. For this thesis, the scope of the research was limited to the customer relationship management system implementation and how it could be used to solve the problems in the information flow between sales personnel and back office staff and to improve sales management’s ability to lead and control the sales force.

1.3 Research methodology and process

Saunders et al. (2009) describe a tool called research onion that can be used when formulating the methodology for a study. The research onion consists of six layers, with the outer layers guiding the choices made when closing in on the core of the onion - the research methods. This framework can be seen in Figure 1.

On the first layer of the research onion, the research the research philosophy is defined. The philosophy of this research is pragmatism. Saunders et al. (2009) state that researches with a pragmatist philosophy are not concerned about the nature of the reality and truth but just focus on answering the research question. This is contradictory to other philosophies, such as positivism, which requires observable data in order to make conclusions and focuses on creating or discovering objective and generalizable laws about the research subject.

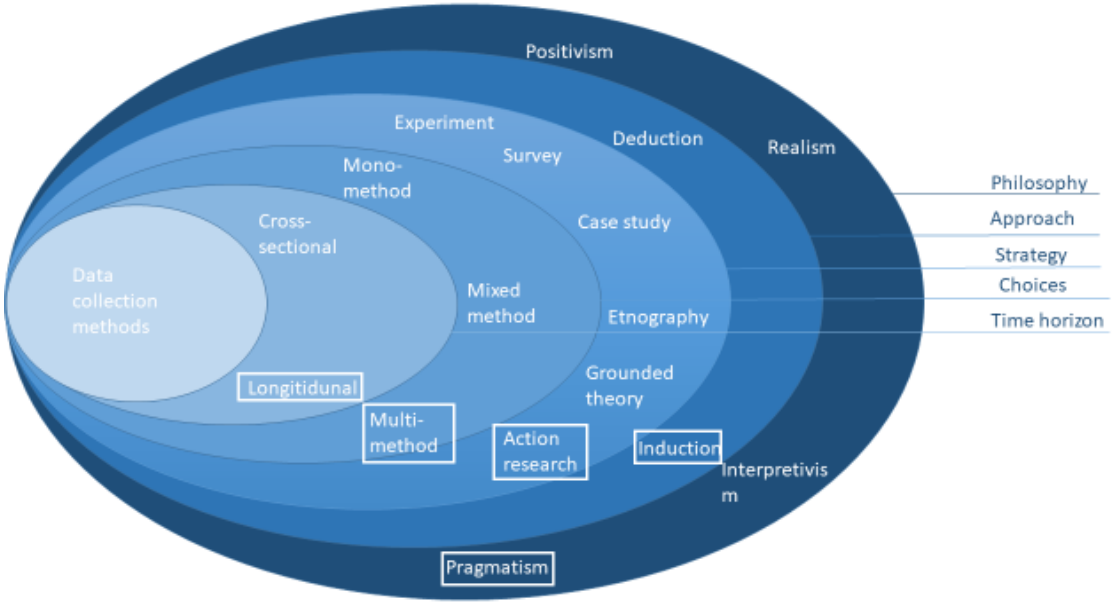

Figure 1. *Research onion (Saunders et al. 2009)*

The second layer of the research onion describes the theoretical approach to the research. According to Saunders et al. (2009) deductive researches aim to create a theory and then test in on the test subjects. This approach is typical for natural sciences and typically utilizes the scientific process, control groups and collecting quantitative data in a structured manner. Saunders et al. (2009) also say that the inductive approach on the other hand moves on the opposite direction. Instead of creating a setting for testing a theory, inductive research intends to understand and explain what is actually happening. Inductive research is more focused on collecting qualitative data and its structure is more flexible. This thesis utilizes an inductive approach.

Different approaches typically suit different strategies for the research. On the deductive-objective end of the spectrum, experimental research is more suitable to be used than case studies or action research. Action research is the strategy utilized in this research. Saunders et al. (2009) describe action research as “research in action, rather than research about an action.” Action research is typically concerned with resolving an organizational problem and has a focus on action, on changing the way the organization functions regarding the research problem.

With action research strategy, it is natural to use multiple methods of information gathering according to Saunders et al. (2009). The theoretical section of this thesis draws information from the existing literature. The aim of this literature review is to construct an understanding of the research topic and find ways to answer the real-life research question. The empirical part of the research utilizes observation and interviews to gather in-

formation about how the organization functions, and what are the problems and requirements for potential solutions. Also, the impact of the changes resulted from conducting the research are observed and discovered by interviewing the affected parties. Both observation and interviewing produce qualitative data.

This research intends to find out how the organizations management's capabilities and sales processes have changed and developed since starting the CRM system project. According to the Saunders et al's (2009) research onion, when researching change over time, the research's time horizon is longitudinal.

The data for this research was gathered using multiple different methods. The first chapters, in which theory of sales management and customer relationship management are discussed draw from reviewing existing literature. In the fourth chapter, where the framework of control and visibility creation through CRM systems is based both on literature review and the researcher's own observations of the phenomenon. In the last part of the thesis, the actual study in the case organization, information has been gathered once again through the researcher's own actions and observations and through interviewing the company personnel. The interviews were conducted in an unstructured manner and were of qualitative nature.

The research process initially got its kick off in October 2017, when the decision of a CRM system implementation was made in the case organization. The author was employed at the case organization's sales department at the time and was named in the project team. Officially the project was started in January 2018, when the preparing for purchasing the system phase was started. The author participated in finding out possible solutions and providers and also took part on interviewing them.

After the creation of the shortlist of the system providers that seemed most suitable, the author was named the project manager of the implementation process. He reported to the project's owner, the sales director of the case organization. The system providers were interviewed during the early spring of 2018 and the shortlist was trimmed down to three options. The author was responsible of organizing these interview sessions and managing both the external communication and internal decision-making regarding the project.

The decision of the system provider and the project scope was made in May 2018 and the contracts were signed and the implementation timeline agreed during the same month. The system design was agreed to be conducted in four weeks during June using a consultation company recommended by the system provider. The author continued as the operational project manager of the system design phase.

The system was designed using agile method recommended by the implementation partner consultants, with daily progress updates and weekly reviews what had been done and what was scheduled for the next week. The case company's project team who was tasked to communicate the needs and requirements to the consultants and daily test and give feedback of the progress made consisted of the project owner, project manager and his assistant and two of the company's senior salespersonnel.

After four weeks the system was deemed to be viable for the initial roll-out. In the first phase the system was introduced to the company's sales management and the sales force. The author was responsible for arranging, planning and conducting training sessions for them. These sessions were held during July and August 2018. During September and October 2018, the sales force and management used the system and the author was working as the main user of the system, providing additional training and help for the users and collecting feedback for mi-nor improvements and for finding out flaws in the system.

After two months of the sales organization using and getting used to the system, the second phase of the roll-out was started. This part included training the engineering and production planning department to use the system and defining the processes with the CRM system that connect sales department with the other departments. Once again, the author was the one responsible for arranging and conducting the training sessions. He was also part of the inter-departmental group that defined the different gates for sales opportunities and how they are monitored using the CRM system.

All the initial milestones set to the CRM system implementation during the system designing phase were completed by December 2018. The author continues to be the main user and the one responsible of the system maintenance and development at the time of writing this report, May 2019. The timeline of the project is depicted in Figure 2.

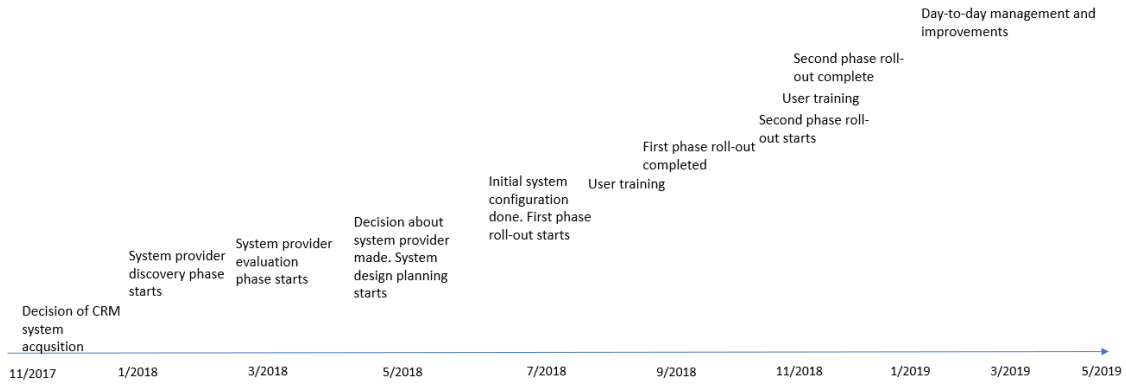

Figure 2. *Timeline of the project phases*

The information gathering for the thesis was done concurrently with the CRM system implementation project. Observations about the research subject was done during the day-to-day work the author has done with the project. Non-structured interviews about the initial situation and its problems were done during the system provider discovery and evaluation phase and before the system design phase. Literature review was also started during the early phases of the project timeline, but it was done in a very sporadic manner.

The writing process was not started before the completion of the system implementation. The majority of the literature review was done between March and May 2019, well over a year after the official start of the project. Author's notes from the meetings and interviews from the earlier phases of the study were used for describing the initial situation and the implementation phase for the empirical part of the thesis. The results of the project were once again collected by interviews doing observations during the everyday actions of the author.

1.4 Structure of thesis

The thesis is divided into four parts: The introduction, the theoretical review of the subject, the empirical part and lastly the summary and reflection of the research. These parts are further divided into eight chapters, each containing one central theme. Table 1 illustrates the structure of the thesis.

Table 1. *The structure of the thesis*

Part	**Chapter**
Introduction	Chapter 1 – Introduction and objective, methods and process
Theoretical	Chapter 2 – Sales Management Introduces the Chapter 3 – Customer Relationship Management Discusses what is Customer Relationship Management, its potential benefits to a company and the process of CRM system implementation Chapter 4 – Creates the framework that is used in the project
Empirical	Chapter 5 – Describes the case company and the initial situation Chapter 6 – Description of CRM implementation effects for the company and the sales management
Summary and reflection	Chapter 7 – Discussion of the results, lessons learned and comparison with the theoretical framework Chapter 8 – Conclusion

Chapter 1 introduced the theme of the study, improving sales management's capabilities by CRM system implementation. It also described the methodology used in the study and the author's role in the case organization's CRM system implementation process.

The theoretical part starts with chapter 2, which describes the role of sales and sales management in a company and what kind of challenges there are in effectively performing and leading company's sales force. The following chapter is about customer relationship management. It describes what customer relationship management is and goes further into customer relationship management systems, their functions, factors for their success and lastly how to implement one in a company.

The fourth chapter discusses how a CRM system implementation could be utilized by the sales management to increase external and internal information sharing and sales management's control. A theoretical framework is created.

Chapter five covers the empirical part which starts by introducing the case company and describes the problems faced by different stakeholders in the company. The sixth chapter describes the results of the CRM system implementation in the company and its effects on the sales process and level of collaboration in the company.

The seventh chapter compares the empirical part's results to the theoretical framework, discusses the limitations of the study and points out possible future development targets. And finally, Chapter 8 concludes the thesis.

2. SALES MANAGEMENT

2.1 Sales role in the organization

Donaldson (2007) defines sales as an activity, which creates value for the company at the point of contact with the customers. This value is usually the revenue and profit derived from the customer. Donaldson (2007) says that sales is traditionally seen as a part of company's marketing function, more accurately a part of the promotion part of the marketing mix. However, he notes that the role of sales has changed from before and this traditional view of sales' role does not reflect reality anymore.

Jobber and Lancaster (2010) note that sales and marketing are closer now than they used to be. They say that as companies have moved from being production oriented to being marketing oriented, sales focus has also moved from just presenting and closing the deal, to a more customer-oriented focus. Figure 3 shows the characteristic of modern selling according to Jobber and Lancaster (2010).

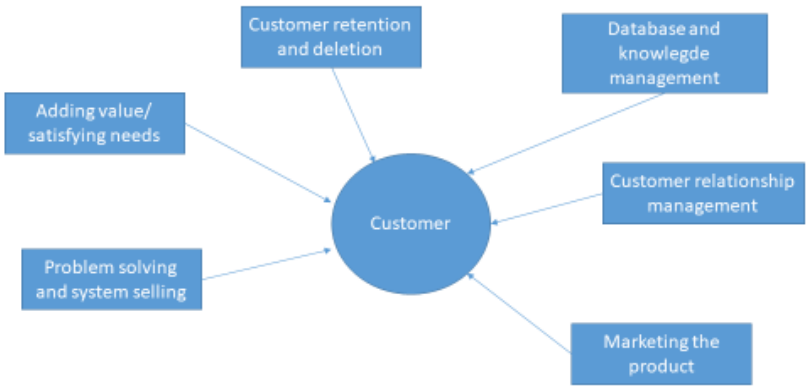

Figure 3. *Characteristics of modern selling (Jobber and Lancaster 2010)*

Jobber and Lancaster (2010) describe customer relationship management and customer retention and deletion dealing with the fact that sales needs to recognize the fact that not all customers are worth the same and the ones that are valuable need to be taken care and managed, and the ones that do not provide value to the company need to be let go or developed to ones that do. Database and knowledge management means that sales is also responsible for gathering market information and being able to access it through

databases. Sales has also changed from just presenting and quoting products to sales people being problem solvers and value providers for their customers. They need to be able recognize customer problems, even if the customers do not know they have ones, and be able to provide them with solutions, instead of just pushing a product from the catalogue to them. In fact, Jobber and Lancaster (2010) note that the sales persons should take on more of a marketing approach and participate in marketing tasks like product development and market segmentation.

Porter (1985) sees sales and marketing as one of the primary value-creating functions in the value creation chain of the company. The value creation chain consists of primary activities and supporting activities. Primary activities are inbound and outbound logistics, operations, service, and marketing and sales. Also, Porter (1985) considers sales and marketing being so interrelated that they are treated as one function. These primary activities are supported by supporting activities, such as finance, procurement and human resources management. The structure of these activities is shown on Figure 4.

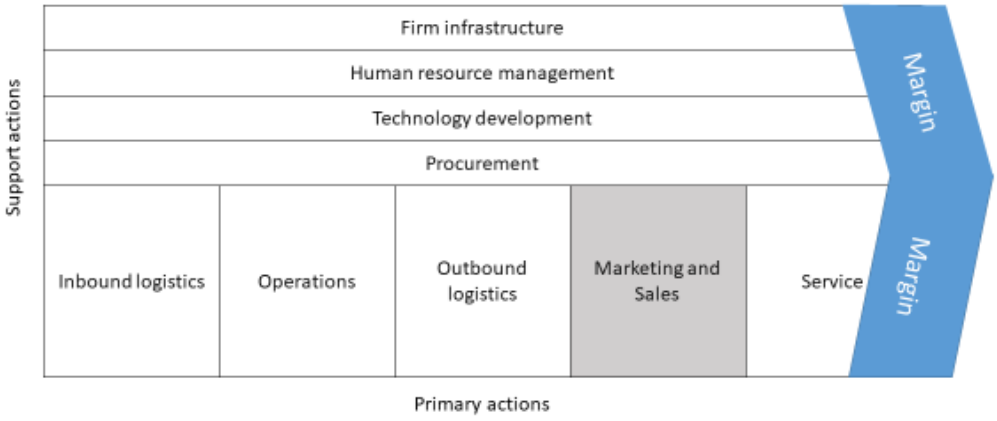

Figure 4. *Company value chain (Porter 1985)*

Porter (1985) sees that these activities are not performed in a vacuum; sales and marketing is linked to the logistics, operations, service and all the supporting activities. These linkages between activities can lead to competitive advantage by optimization and coordination. For example, a little more effort used in customer order intake can help operations to produce the product more efficiently and reduce quality costs by eliminating errors.

It is evident that sales and marketing are strongly linked to each other. That's why, for this thesis, some tasks that are mentioned in the literature as marketing department's tasks in the traditional marketing mix -model, such as distribution channel management, product decisions and market segmentation are considered sales responsibilities. Also, because sales and marketing as a function are linked with the other processes of the value creation chain, like Porter (1985) describes, sales also has responsibilities towards other functions.

2.2 Sales management

There is no common definition of sales management. It is the process of planning, organizing, directing, staffing and controlling the sales operations, according to Donaldson (2007). According to Jobber and Lancaster (2010) sales management is the process of managing the sales function. Jobber and Lancaster say that sales management consists of three different parts: planning, organizing and controlling sales.

Jobber and Lancaster (2010) recognize five areas sales managers have to consider:

1. Recruitment and selection
2. Motivation and training
3. Organization and compensation
4. Sales forecasting and budgeting, and
5. Sales force performance evaluation.

Donaldson (2007) divides sales management's tasks to categories that include sales force organization, sales forecasting and setting targets, recruitment and selection, training, coaching and leading the sales team, motivating and rewarding, and lastly, monitoring and measurement. Both points of view are quite similar. For the next chapter the Jobber and Lancaster (2010) model of dividing sales management's tasks as depicted in Figure 5 is utilized.

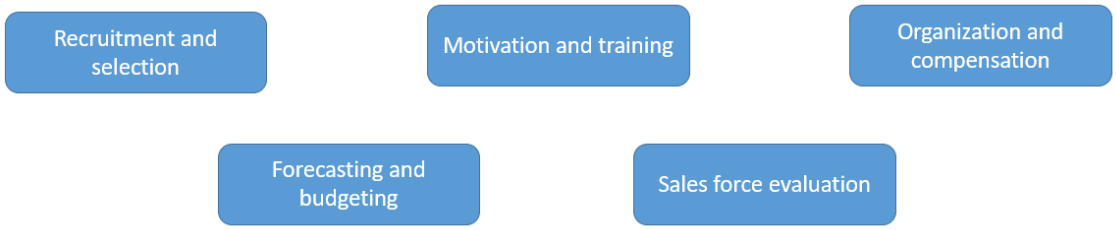

Figure 5. *Sales management's tasks (Jobber and Lancaster 2010)*

Jobber and Lancaster (2010) recognize that these five tasks of sales management can be divided to two levels. Recruitment and selection, motivation and training and sales force organization and compensation deal with management of the sales personnel and the initial premise for the sales process. Forecasting and budgeting and sales force evaluation on the other hand deal with organizational planning and measuring the sales process or the outcome of it.

2.2.1 Recruitment and selection

Jobber and Lancaster (2010) emphasize the importance of recruitment and selection of sales force as sales management's task. They recognize 5 stages in the recruitment and selection process: (1) preparation of job description, (2) identifying the sources of recruitment, (3) designing effective application form, (4) interviewing the shortlisted applicants and lastly, (5) using supplementary selection aids to reach a conclusion.

Jobber and Lancaster (2010) highlight the fact that the sales manager is usually in an unfamiliar position when recruiting a new sales person; instead of the usual sales role, they are the buyer in the recruitment situation. They list a number of techniques that the sales manager doing the recruiting can use to find out the sales person most suitable for the position in question. These include different interviewing techniques, psychological tests and role playing.

Finding a sales person that is the best fit for both the role that needs to be filled and for the organization is important as different personalities and sales types do not always suit all the environments according to Jobber and Lancaster (2010). That is why it is critical to have a clear job description and well-designed application process. Jobber and Lancaster (2010) further point out that sales people induce a higher cost for the company than an average worker and sales person effectiveness is highly variable.

2.2.2 Training and motivation

One of the challenges of sales management and the purpose of training is to improve sales force performance according to Jobber and Lancaster (2010). They state that training can result in that through many ways. It can obviously increase the sales people's traditional selling skills that will increase their ability to present, negotiate, close deals and manage customer relationships. Training can also improve sales force's motivation and self-confidence, which have been shown to relate to improved sales performance. It also increases job satisfaction, reduces the amount of complaints from customers, level of staff turnover, and need for management support.

Donaldson (2007) recognizes two different kinds of methods for improving sales people's abilities and performance: formal training and coaching. Formal training means teaching techniques like classes, training videos or discussion groups. For formal training to be effective, it needs to be specialized and related to the specific job of the recipient. Coaching is more informal type of training, in which sales person is given feedback and encouragement based on their observed actions.

Donaldson (2007) defines motivation as the amount of effort that sales persons expend on any given task associated with their job. It is a key factor in sales performance and thus keeping the sales force motivated is a key task for sales management. Sales people are usually working in demanding, hostile and competitive environments and can easily be worn down without proper management of their motivation. According to Jobber and Lancaster (2010) high motivation can lead, among other things, to increased use of win-win tactics, greater work rate and using smarter working methods.

How to motivate sales persons and how to balance the costs and benefits gained by the motivational models is a problem for sales management. Jobber and Lancaster (2010) say that sales management's goal regarding sales force motivation is to minimize the costs incurred to the company while getting the sales persons to do their job well and in a way that the management wants it done. Motivation theories try to answer that problem. According to Donaldson (2007), there are a number of different theories about motivation, ranging from general motivational theories, such as Maslow's needs theory, to motivational theories specifically about sales person motivation, like Likert's sales management theory or Churchill et al's salesforce motivation model.

Donaldson (2007) introduces motivational mix, which combines the different sources of motivation. That is illustrated in Figure 6.

Figure 6. *Motivational mix (Donaldson 2007)*

Donaldson (2007) recognizes that different people have different responses to different situations and have different motivations. Some people are more intrinsically motivated than others are, and others value financial incentives more than others do. Sales management needs to consider the individual sales person's personalities when trying to motivate them.

According to Donaldson (2007) financial factors in motivation include factors like wage model or commission-based salary. He says that a standard wage can be motivating by creating safety and stability, but commission-based salary creates clear financial incentives to perform. In addition to this, he notes that motivation can be derived from other, financial incentives such as bonuses and sales contests. These can also have an adverse effect if they encourage the wrong kind of sales behavior, or are not seen as just models and cause dissatisfaction.

Aside from financial rewards, non-financial rewards are also useful for motivating. Jobber and Lancaster (2010) mention, among other motivational theories, Maslow's hierarchy of needs and Herzberg's dual factor theory list achievement and recognition as sources of motivation. Conversely, lack of achievement or recognition function as demotivators.

Management procedures, such as reporting systems, performance measurement and evaluation and feedback, affect employee motivation through different methods. Setting and measuring targets can be motivational by themselves, without even linking them to a monetary reward according to Jobber and Lancaster (2010). Sufficient feedback increases job performance and satisfaction, which are linked to motivation based on Donaldson (2007).

Leadership is a part of overall management that heavily affects the motivation of employees. Jobber and Lancaster (2010) describe leadership as a process of influencing the behavior of people towards the accomplishment of objectives. They say that in sales environments this usually manifests as advice, training, and as a consideration of sales persons' challenges. They point out a study done by the Chartered Institute of Marketing, in which factors dealing with the relationship and actions of the superiors, such as meetings with them to discuss challenges, and problems and their support during sales meetings were among the most significant relating to employee motivation.

2.2.3 Organization and compensation

Organizing and compensation includes the following tasks according to Jobber and Lancaster (2010): defining the sales organization's structure, determining the number of sales people, establishing sales territories and forming compensation plans for the sales force. Donaldson (2007) sees sales force organization as an adjacent task to formulating sales force objectives and establishing a corporate and marketing strategy.

There are multiple ways of organizing the sales force. According to Jobber and Lancaster (2010), the traditional model is to divide the salesforce by geographical areas but nowadays, with customer needs diversifying and technological advances diminishing the significance of physical distances, other models of division are becoming more common and popular. Donaldson (2007) introduces alternative ways of sales force division methods to the geographical structure, such as product specialization structure, division between different customer types, for example by account size, or a combination of different methods.

Jobber and Lancaster (2010) say that determining the sales force areas or territories and quantity has a direct effect on how much time and resources can be allocated to customers belonging to the respective areas. It also determines the workload of the sales persons and has an effect on the formation of different compensation plans. These variables have a great effect on the motivation of the sales force, as was presented in the previous section.

2.2.4 Forecasting and budgeting

Sales forecasting is important because all sales, marketing and company planning are based on the sales forecasts according to Jobber and Lancaster (2010). They note that if forecasts are not correct, the business planning will also be inaccurate. Sales forecasts are used by different functions in the company: finance department uses these as a base

for making the budgets, production can start planning and allocating resources and adjusting production levels to match sales forecasts, purchasing department can anticipate purchasing crucial and long delivery time materials, HR management can estimate the staffing needs based on the forecasts. Sufficiently accurate sales forecasting is of great worth for the management of a company according to Jobber and Lancaster (2010).

According to Jobber and Lancaster (2010) there are three types of forecasting, that are used in planning in different manners: short term, medium term and long-term forecasting. Short-term forecasting usually tries to make predictions for the next few months and are used in tactical decision making, such as production planning. The short-term forecasts are more about fluctuations than trends. Medium-term sales forecasts are forecasts that start the process of business budgeting. The medium-term forecasts cover usually the following year. Long-term forecasts are multi-year forecasts that try to predict the industry trends and take into account macro-economic trends. These are used to support company's strategic decision-making.

Donaldson (2007) agrees with the forecasting division into three classes depending on the time horizon, but sees that sales forecasts can be divided also into three categories based on which is the starting point of the forecasts. There are more general forecasts that try to anticipate revenue by overall economic conditions, forecasts that are based on the industry's situation and competitors' known actions and lastly forecasts made based on company's marketing plan and efforts.

Donaldson (2007) points out that decreasing forecasting inaccuracy increases forecasting costs but reduces costs incurred from the effects of inaccurate forecasting, and vice versa. Sales managers' goals towards forecasting cost should be minimizing the total cost that is the sum of forecasting costs and the costs of inaccuracy.

Forecasting methods can be divided into two types, according to Jobber and Lancaster (2010): qualitative and quantitative forecasts. Qualitative techniques rely on opinions and surveys, whereas quantitative methods are based on mathematical models. Some qualitative forecasting measures are user surveys, product or marketing tests or sales force composite forecasts. Salesforce composite forecasts mean that each sales person makes a product-by-product forecast for their sales territory. These individual forecasts are then approved by the sales manager and combined to produce a company wide sales forecast.

Quantitative methods can be further divided into two subcategories, as shown by Jobber and Lancaster (2010), time series analysis and causal techniques. Time series analysis take historical data and extrapolate the historical information based on some kind of data

model. Moving averages and seasonal variation methods are examples of this kind of forecasting methods. Causal techniques are models that are more complicated. They intend to form a correlation between some measurable phenomenon and the forecastable object.

Budgets are used to lead organizations. Like mentioned earlier by Jobber and Lancaster (2010), sales forecasts are used as the base of the budgeting decisions. Sales forecast acts also as the revenue budget for the company, while other budgets are expenditure budgets. It is important that the sales budget is accurate, as if it is too positive, it can cause problems in working capital flow. Figure 6 shows the how the sales forecast is the start of the company's budgeting process as described by Donaldson (2007).

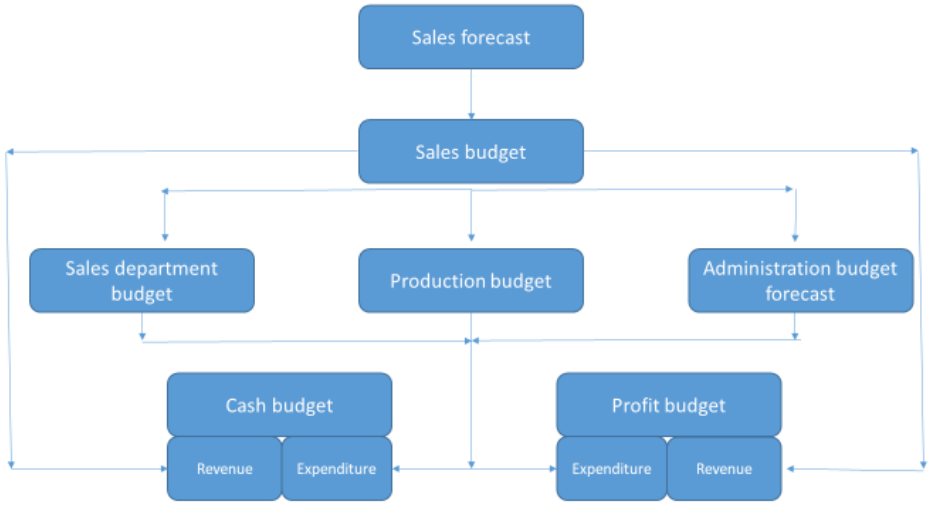

Figure 7. *Sales forecast as the starting point of company's budgeting process*

Typically, the medium-term sales forecast revenue is taken as a starting point, and allocated to different departments or cost centers. An inaccurate sales forecast leads to cost center budgets to be wrong, cash flow budget to be inaccurate and affect the profit budget accuracy according to Jobber and Lancaster (2010).

Donaldson (2007) says that sales management is usually most interested about the sales budget. According to him, sales budget includes two parts: sales target and sales costs, that include selling expenses, marketing and sales administration costs. Sales targets are usually divided by sales regions or by individual sales person. These targets act not only as a budgeting figure, but also as a base for measuring, evaluating and

rewarding the sales person. Sales targets are commonly set by economic market indicators, based on historical figures, like last year's sales figures, based on the sales manager's or sales person's judgement or as a target based on market potential.

2.2.5 Sales force evaluation

Sales force evaluation is the process of setting sales force objectives, determining strategy for reaching those objectives, setting standards of measuring if these objectives are reached, comparing the results with set standards and lastly, putting performance-improving actions into practice according to Jobber and Lancaster (2010). They say that the evaluation's purpose is to help the organization reach its goals. By measuring the actual performance against the set goals, any shortcomings can be seen and eliminated by tackling the problem. Evaluations also provide a chance to recognize the performances that have exceeded the set standards. Through evaluation it is possible to reach and set objectives, offer compensation for good performances or training where it is needed and it can be a source of motivation. These results of sales force evaluation are shown in Figure 8.

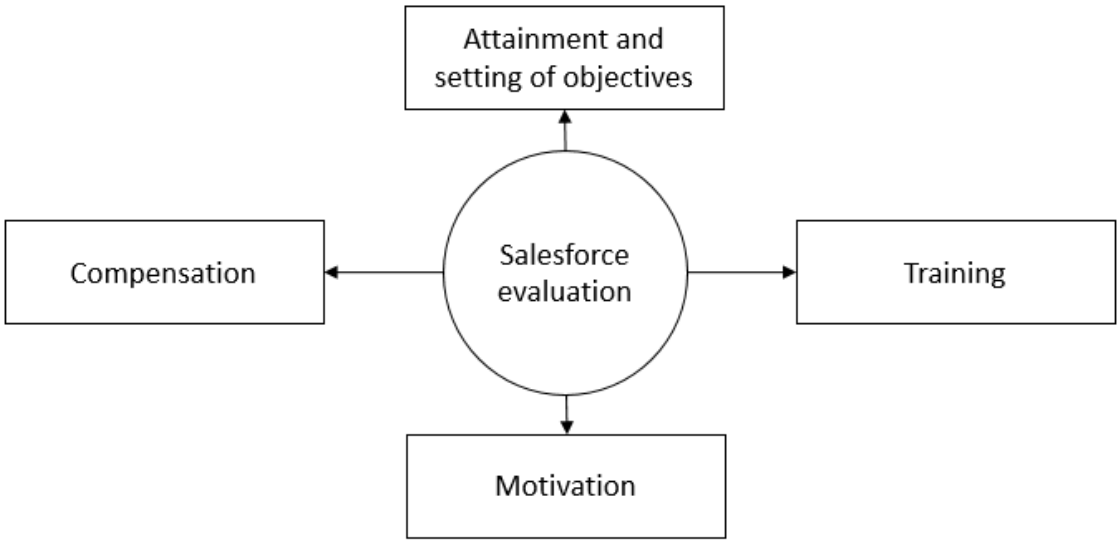

Figure 8. *Evaluation role in sales organization (Jobber and Lancaster 2010)*

Jobber and Lancaster say that there are two types of performance measures: qualitative ones and quantitative ones. According to them quantitative metrics can be further divided to output and input measurements. In sales, output measures are typically related to sales and profit performance. They describe the end result of the sales person's, group's or organization's actions. Typical quantitative output measures are sales revenue, profit margin, profit margin percentage and number of orders. Input measures describe what

has been done in order to achieve the set goals. Typical behavioral quantitative measures in sales are number of sales calls or visits made and number of quotations sent. Jobber and Lancaster (2010) discuss further that combining input and output measures can result in metrics that describe the sales person's effectiveness, such as strike rate, which is deal won divided by amount of quotations sent.

According to Jobber and Lancaster (2010), these quantitative measures, input, output and hybrid ones, can be further focused on product or customer types, sales areas or sales persons responsible for the figures. These more refined figures can be used to find out more information about the effectiveness or performance of the sales process.

Qualitative measures are more subjective and descriptive. Jobber and Lancaster (2010) mention that sales skills, such as quality of sales presentations or ability to close a deal is one common dimension of qualitative measuring. Other dimensions that can be qualitatively measured are among others customer relationships, self-organization, product knowledge and attitude. Quantitative and qualitative measurements are often somewhat interrelated. For example, if a sales person has poor calls to sales ratio, it might be that his sales skills are poor. This way, areas where more training is needed can be recognized.

2.3 Sales control systems

Sales control systems are management policies that try to affect the sales personnel to do their job effectively and in a manner that the organization wants it to be done. They are used to monitor, evaluate, control and develop sales persons' or organization's performance, according to Jaworski (1988). There are multiple different frameworks for organizational control systems, for example Anderson's and Oliver's (1987), Jaworski's (1988) or Challagalla's and Shervani's (1996).

Anderson and Oliver (1987) recognize two types of control: behavioral and output control. Jaworski (1988) found that there are two categories of controls that can be further divided to multiple control methods: (1) informal controls that consist of self-control, peer control and organizational control and (2) formal controls that consist of input control, process control and output control. Challagalla and Shervani (1996) on the other hand recognize three control methods: output control, activity control and capability control.

Malek et al. (2018), in their review of the sales management control systems, point out that even though there are various different models, fundamentally they are quite similar. They summarize the previous research to a conclusion that sales management can control the sales force either through informal control or formal control. According to them formal control can be further divided to subcategories: input, output and behavior controls. Informal controls can also be divided to three types: self-control, peer control and cultural control. The different forms are summarized in Figure 9.

Informal control	Formal control
Self-control	Input control
Peer control	Behavioral control
Cultural control	Output control

Figure 9. *Sales control systems (Malek et al. 2018)*

Jaworski (1988) describes informal controls as unwritten controls in an organization. They are typically based on behavior and manners of the sales force itself rather than management's involvement. In other words, they are group norms and organizational work culture that are followed by the sales force. They can be divided to three different categories based on their diffusion level in an organization. The types are self-control, peer control and cultural control.

According to Jaworski (1988), self-control means that an individual sets their own objectives and monitors and changes their behavior based on the attainment of those objectives. Jaworski (1998) says that peer control means the control practiced by the sales force themselves. The sales force monitors that their coworkers are using commonly accepted methods and working towards common. Any deviations are guided to the right track by coworkers. Lastly, cultural control mean that the manners of the whole organization are abided by and internalized by the individuals according to Jaworski (1988).

Formal controls, on the other hand, are initiated by management and documented methods of controlling the sales force. Budgets, quotas and official sales plans belong to this group. The framework by Malek et al. (2018) presented in Figure 18, follow the division made by Jaworski (1998) as the formal controls are divided to three categories.

Input controls focus on affecting the starting point of sales process, such as competency improvement or resource allocation by the sales force according to Jaworski (1988). In Challagalla's and Shervani's (1996) model has similar control method, capability control.

When utilizing capability control, the managers try to influence sales person's performance by affecting the skill sets they possess.

In behavioral control, as defined by Anderson and Oliver (1987), the sales force's actions and sales processes are used as a base for the monitoring. These include for example sales calls made, following and fulfilling the steps defined in the sales process, or even training sessions attended. Behavior control systems usually require more managerial attention, but also give them more control over the sales force. Anderson and Oliver (1987) point out that advantages caused by this approach is that it is easier to guide the sales force to actions that do not cause immediate rewards for the company, but focuses on more long-term advantages. In Jaworski's (1998) model, there is similar control method called process control and in Challagalla's and Shervani's (1996) model activity control is mentioned.

Lastly, output control is mentioned by all three studies. Output controls focus on the outputs of sales processes (Jaworski 1988; Anderson and Oliver 1987, Challagalla and Shervani 1996). According to Anderson and Oliver (1987) the managerial effort is lower in output control systems, as the management trust the sales force to be able to adjust and develop their sales approach according to market demand. The metrics used in these kinds of systems are usually quite clear and objective, such as sales volume or gross profit made. Output based monitoring and rewarding can have its downsides also, as the metrics can prompt the sales force to pursue their short-term benefits instead of longer-term value creation for the organization by for example by giving discounts or focusing too much on closing the deals and not paying attention to the customers after the sales, according to Malek et al. (2018).

Malek et al. (2018) say that typically, the sales force is not controlled strictly by their output or by their behavior, but a combination of these systems: if sales management has means of defining and monitoring steps that positively affect the sales force performance, the behavioral control system elements are used more, and if the management has the ability to track the performance of sales force by tracking outcomes, output measures are more likely to be used. Hybrid systems mix elements of both of these categories, but lean usually on one side or the other. For example, an organization might base their sales bonuses on the sales volume, but only pay them out, once all the defined steps of the sales process are done.

3. CRM SYSTEM IMPLEMENTATION

3.1 CRM background – Relationship Marketing

As a term, customer relationship management started emerging in the mid-90s, and a lot has been written about it since. In the academic literature, one commonly accepted definition for the term has not been found. It varies from a simple technological solution for keeping track of customer data to a business strategy with an emphasis to maximize the lifetime profitability of chosen customer relationships. As hard as finding the definition for customer relationship management seems to be, academic literature seems to agree on at least one thing: CRM initiatives are not easy to complete in a satisfactory manner: Chen and Popovich (2003) say that 65% of CRM implementations end up in failure. Reinartz et al. (2004) say that 70% of the initiatives have been either disappointing or not completely satisfactory.

According to Sheth and Parvatiyar (1995) customer relationship management has developed from the concept of relationship marketing. Sheth and Parvatiyar say that marketing as a function can be traced back to 7000 BC when producers were selling their own produce in the marketplaces directly to the customers. This kind of direct relationship between sellers and buyers continued from the bazaars of the agricultural era up until the early industrial period. Vendors and customers had a personal relationship, which was mutually beneficial: with repetitive purchases, trust between the parties grew and direct contact facilitated the producers to know and tailor their produce to suit the customer needs. The marketing practices were individually focused, and production based on customer demand. Relationship between customers and manufacturers was critical, since there was a mutual dependence: the customers needed the manufacturers to make the goods available and per their specification and manufacturers needed to trust the customers to be able to follow through on their commitments. (Sheth and Parvatiyar 1995)

With the rise of industrialization and improvement of mass production techniques, the distance between production and consumption, and between producers and consumers, started to increase. With mass production and the economics of scale, the amount of goods produced in factories increased and the producers had to find ways to move the greater amount of inventory. They started to rely on retailers and other types of intermediaries to find and even increase the markets for the goods and share the risks of carrying

the inventory. However, the intermediaries did not care or try to have individual relationships with the customer, unlike the direct-selling producers in the past. Their goal was to move produce as much and at as good price as possible, never what the customer actually needed or wanted. This is how industrialization and the emergence of intermediaries created the transactional marketing function. The direct relationship between manufacturers and consumers vanished and was replaced by the intermediaries' role of facilitating and need of maximizing transactions. (Grönroos 1997; Sheth and Parvatiyar 1995)

According to Grönroos (1997), this led to the development of transactional marketing and especially to focus on marketing mix and the four Ps: Price, Product, Promotion and Place. This means that the marketer tries their best to get the customer to make a transaction that satisfies the value function by making an attempting mix out of these ingredients. Sheth and Parvatiyar (1995) say that the focus of marketing was on short-term goals; maximizing profit today was seen as more important than potential future cash flows. Marketing was also mostly measured by sales figures and market share. This led to aggressive selling techniques and seeking competitive advantage by decreasing prices. This, combined with the increase of professional purchasing departments and competitive bidding processes, drove down sales prices and also increased transactional costs related to sales as companies needed to use resources to fill in and review the documentation in order to participate in and resolve these bidding processes.

Motivated by these problems, marketers started looking elsewhere according to Sheth and Parvatiyar (1995). They describe the shift towards relationship marketing being aided by two changes: marketers realized the importance of customers' repeated purchases and started focusing on brand creation, brand loyalty and better differentiating themselves from competitors to selected market segments in order to encourage repeat-purchase possibilities. The second change was the development of vertical marketing systems, such as franchising or exclusive distribution channels. This vertical integration was in a way a reversal of the customer-provider segregation that had happened earlier. This start of change in marketing approach is illustrated in Figure 10.

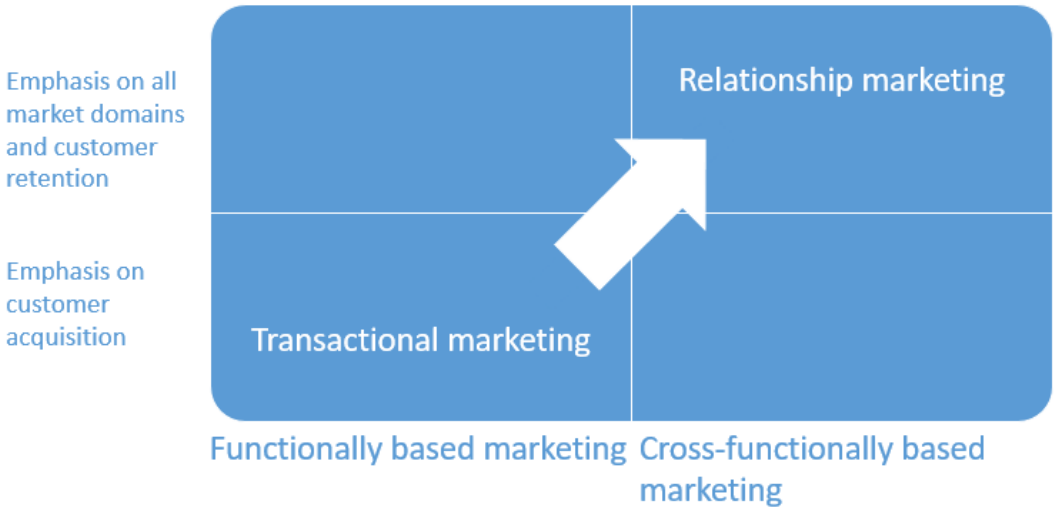

Figure 10. *Focus shift in marketing (Payne 2006)*

Marketers started noticing that by developing relationships and getting to know the customer needs better, they could gain advantage by delivering increased customer value. One way of increasing the created value was by including the customers in the marketing and product development processes from early on. Fulfilling the customer needs better made the customers less price sensitive and more likely to return to the provider. Trust and repeat purchases also reduced the marketing costs by eliminating transaction costs as searching, evaluating and negotiating with different providers did not use so much resources anymore. Sheth and Parvatiyar (1995) note that the two cornerstones of transactional marketing approach: (1) competition and self-interest as drivers of value creation and (2) independence of each marketing actor as the source of efficiency and value distribution, were replaced by emphasis on mutual cooperation and interdependence. The differences in these two approaches are summarized in Table 2.

Table 2. *Relationship marketing approach versus transactional marketing (Grönroos 1997)*

	Transactional marketing	**Relationship marketing**
Time perspective	Short term	Long term
Dominating marketing function	Marketing mix	Interactive marketing
Price elasticity	Customers are more price sensitive	Customers are less price sensitive
Customer satisfaction measurement	Market share (indirect approach)	Managing the customer base (direct approach)
Customer information system	Ad hoc surveys	Real time customer feedback
Interdependency between marketing, operations and personnel	Interface with no or limited importance	Interface with substantial strategic importance

Grönroos (1997) also notes that some types of businesses are better suited for relationship marketing than others. For example, service business is the more suitable for relationship building than industrial goods. Industrial goods in turn are better suited for relationship marketing approach than consumer durables and goods.

3.2 Customer relationship management as a strategic process

Customer relationship management does not have a clear definition. Depending on the source, it can vary between a business strategy and a technological application. Kostojohn et al. (2011) define CRM as “people, processes and technologies a business deploys to increase their costumer focus.” Chen and Popovich (2003) also include people, processes and technology in their definition of CRM being an approach of managing customer relationships in a way that focuses on customer retention and developing the relationship. Oksanen (2010) says that depending on the context CRM can be understood, among other things, as a set of practices and information systems that an organization uses to manage its customers, as an approach to recognizing, acquiring and retaining customer or as a business strategy which aims maximizing customer profitability, satisfaction and profits.

Payne and Frow (2005) say that customer relationhip management can be defined at least from three different perspectives. One is that CRM project is only an implementation of a technology solution. The second definition of CRM, by Payne and Frow (2005), is also focused on the technological solutions but with more focus on the customer orientation and integration of these IT solutions. The third approach to CRM is a strategic and more holistic view of CRM that includes the focus on creating customer value through careful management of the relarionships. This deviation is illustrated in Figure 11.

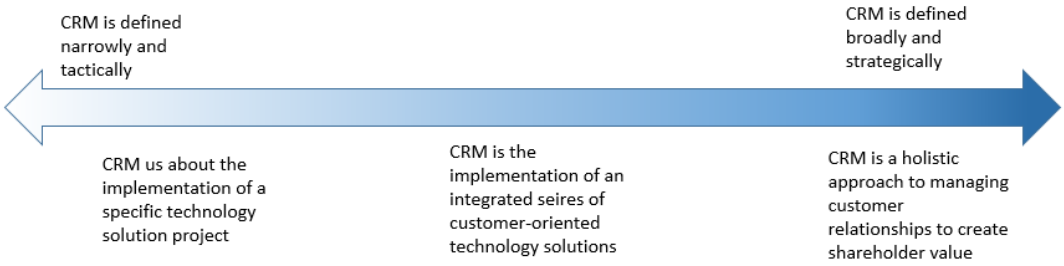

Figure 11. *CRM continuum (Payne and Frow 2005)*

Even though the definitions for CRM vary in focus and scope, the majority of the CRM definitions are broader than just a mention of an IT system tasked with customer information handling. They also usually make a distinction between this wider approach as CRM and the technological element that can be called a CRM application (Kostojohn et al. 2011) or a CRM solution (Payne 2006).

Although the definitions of CRM vary, academic literature seems to agree that CRM orientation offers a variety of advantages to a company. Richards and Jones (2008) say that even though every CRM project is unique and project types vary a lot from industry to industry, some core benefits caused by CRM adoption do not vary much regardless of industry. These core benefits include, but are not limited to improved ability to target profitable customers, customer experience improvement through better customer information flow processes, customer-oriented product and service development and individualized marketing efforts according to Richards and Jones (2008). These are similar to the ones mentioned previously in the relationship marketing section. In fact, in academic literature these terms are often used interchangeably, but Payne and Frow (2005) say that, rather than the same thing, CRM should be regarded as information-enabled relationship marketing or as a relative or an offspring of relationship marketing. The technological perspective of CRM adds to the list of core benefits mentioned earlier factors such as improved sales force efficiency and effectivity through sales force automation tools,

and ability to integrate different communication and distribution channels according to Richards and Jones (2008).

Even though there are loads of potential advantages to be gained by adopting a CRM process, success is not guaranteed. Depending on the source, up to 70% CRM projects fail or do not achieve desired results according to Chen and Popovich (2003). Other sources are not as pessimistic about the success rate, as for example one more recent article on CIO magazine say that 33 per cent of the CRM projects end up in failure (Tareb 2017). That is still a high percentage of failure.

Payne and Frow (2005) note that the wider, more strategic approach usually leads to better resolution on CRM projects. When considering CRM only as a technology solution, the long-term advantages of developing customer relationships and adding customer satisfaction is more likely forgotten and only the short term advantages are pursued. In order to maximise the long term success, a strategic framework, in which CRM is considered to consist of different cross-functional processes, has been developed. Payne (2006) defines these processes as follows:

1. Strategy development process
2. Value creation process
3. Multi-channel integration process
4. Information management process
5. Performance assesment process

These processes should encompass all the functions in a company, not only marketing and sales. This is illustrated in Figure 12.

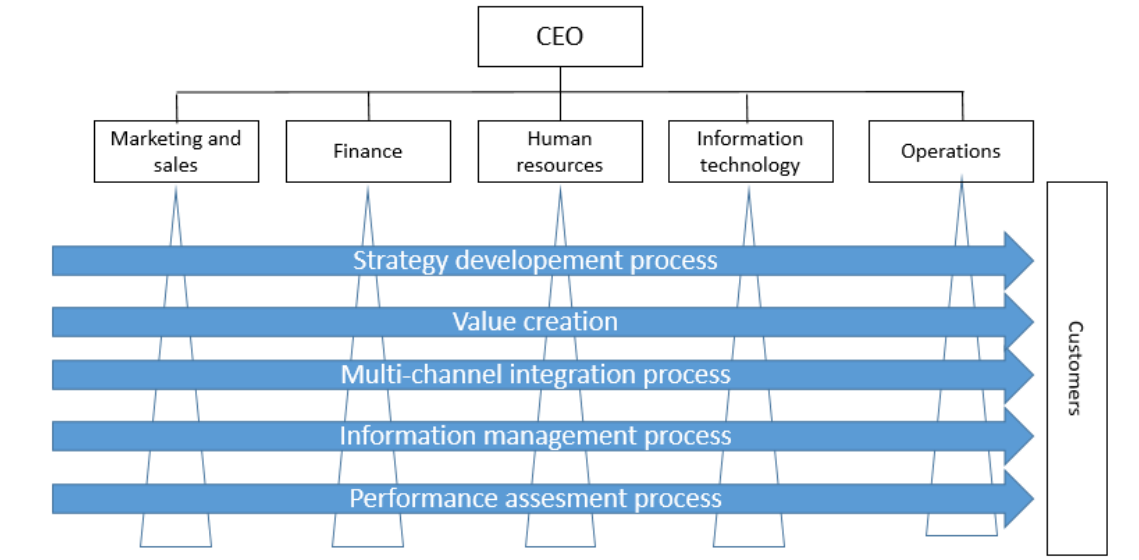

Figure 12. *CRM as a cross-functional activity (Payne 2006)*

As Figure 12 shows, strategic CRM connects organization's different departments with these five processes. The processes cover all the departments and are customer-oriented.

3.2.1 Startegy developement process

Strategy development process is the first one any company should focus on when considering CRM, according to Payne (2006). Not only does it affect the four other processes, but it also should provide the organization clear goals for the CRM activities. Strategy development process includes two dimensions, business strategy and customer strategy. These two components lay the base to the rest of the CRM processes. Strategy development process should start by determining a company's business strategy in order to understand how to build a customer strategy that is in accordance with it. CRM should not be defining business strategy, but to draw attention where it might be wrongly directed. It is crucial for CRM activities to be aligned with business strategy.

Determining the customer strategy deals with the question of which customers to pursue and which to avoid according to Payne (2006). In other words, deciding the target customer base in order to be able to focus the efforts on the segment that best suits the organization's abilities. Payne (2006) says that the definition is typically done by the marketing department but must be aligned with the overall business strategy. That is why it is important that the business strategy is well defined beforehand. Customer strategy determination includes examining the current and potential customers and the best possible manner of customer segmentation. For segmentation decisions, the organization

needs to be able to group or divide customers in an effective manner and make decisions on how granular or broad the customer segments area according to Payne (2006).

The goal of the strategy analysis should be to ensure that the overall business strategy and the customer strategy are aligned and provide the organization with a clear picture of where they are, and a direction on which it can start building the other CRM processes according to Payne and Frow (2005).

3.2.2 Value creation process

Value creation process translates the business and customer strategies to specific statements what value needs to be delivered and what value is received from the customer, according to Payne (2006). There are three components in the value creation process:

1. value provided to the customer
2. value gained from the customer, and
3. the maximization of lifetime value derived from wanted customer segments by carefully managing this value exchange process.

Customer value is seen as a source of competitive advantage but there is no clear definition of what constitutes as customer value. Khalifa (2004) defines customer value as combination of utility value and psychic value. The experienced net value is the difference between that sum and the total costs incurred to the customer. This cost includes the monetary cost of the acquisition but also the costs incurred during and before the purchasing process. This is illustrated in Figure 13.

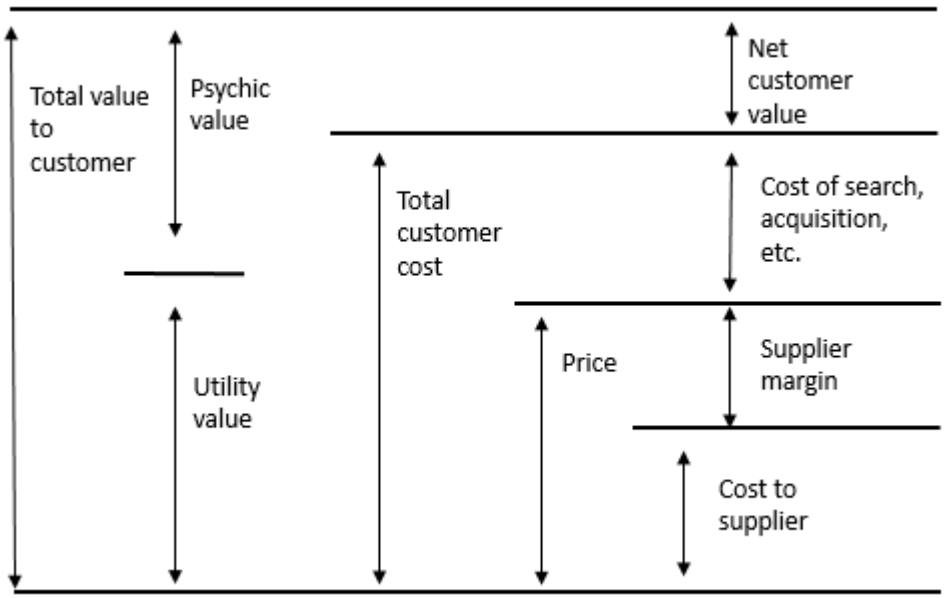

Figure 13. *Customer value components (Khalifa 2004)*

Payne (2006) says that customers derive value from not only the core product or service, but also the expected, augmented and potential additions related to this core product. These additions can be physical or intangible, or provided now or maybe expected in the future. Customer net value can be increased either by increasing the utility or psychic value of the product or by reducing the customer cost.

The second part of the value creation process described by Payne (2006) is analyzing how the company can derive value from the customers. Besides obvious monetary benefits received from sales, customers can provide value to the seller in other manners. Just as the customer can reach cost savings by building a relationship with the provider, the seller can find cost savings as it is cheaper to retain a customer than to find a new one. There is also the chance of cross selling and upselling that can lead to direct financial benefits. Indirectly, customers can function as the organization's advocates to other potential customers. Word of mouth has been noted as one of the most important factors affecting purchase decisions in many industries. However, it is also important to recognize the customers or customer segments that are not profitable or otherwise desirable.

Payne (2006) says that the goal of value creation process should be that the organization knows how to balance the creation of customer value and the value derived from customer relationships. Only focusing on the value received from the customer, especially in the short term, can be damaging to the customer value creation process.

On the other hand, focusing too much on understanding customer needs and not recognizing the profitable customers can lead to diminished profitability of the company.

3.2.3 Multi-channel integration process

Payne (2006) describes the multi-channel integration process intending to connect the strategy determining process and value creation process to transactions with customers. In addition to just sales communication, these transactions can be pre- or post-sale-, service contact- or cus-tomer support communications. According to Payne (2006) the integration process starts with analyzing and determining what channels the organization should use when interacting with customers. In order to succeed in this, the company needs to know who it is actually communicating with and through which channels. This can be done by mapping the flow of the products to end customers by using a technique called market map. Just mapping the current flow is not enough. The company should also try to anticipate the forthcoming changes in the industry channel structure or find more effective channels than they are currently using. This can be done by benchmarking other industries that are analogous to the industry in question, especially if they are going through a change that is likely to occur in the company's industry also.

When designing the channel structure of a company, Payne (2006) says that it is important to understand that the customer may have differing preferences depending on the segment or status on the customer life cycle: first time purchaser's preferred channels probably differ from the ones of repeat purchaser's requesting product support. Once the correct channels have been chosen, it is essential that the customer experience when using these channels is positive and that the channels are integrated, i.e., there are no silo channels or blind spots that cause dissatisfaction. Payne (2006) states that the goal of the multi-channel integration process is ensuring that the company uses the most suitable channels for communicating with its customers and that they provide the best possible customer experience.

3.2.4 Information management process

Information management process has two components: collecting customer information from all customer touch points and utilizing it in order to create customer value and improving customer experience, according to Payne (2006). He says that the information management process is the engine that drives CRM activities and connects the pieces of customer information gathered from different customer interactions into a set that can be used in creating superior customer experience.

All the other processes depend on the information management process to provide them the information they need in order to function according to Payne (2006). A strategy development process needs customer data to be able to find ways of gaining competitive advantage. The value creation process needs information on customer needs in order to better create value for them. The multi-channel information process needs supporting processes that gather and refine the information captured by it. The performance assessment process needs information to make decisions and draw conclusions about CRM. Payne and Frow (2005) illustrate the mutual dependence of the five processes in Figure 14.

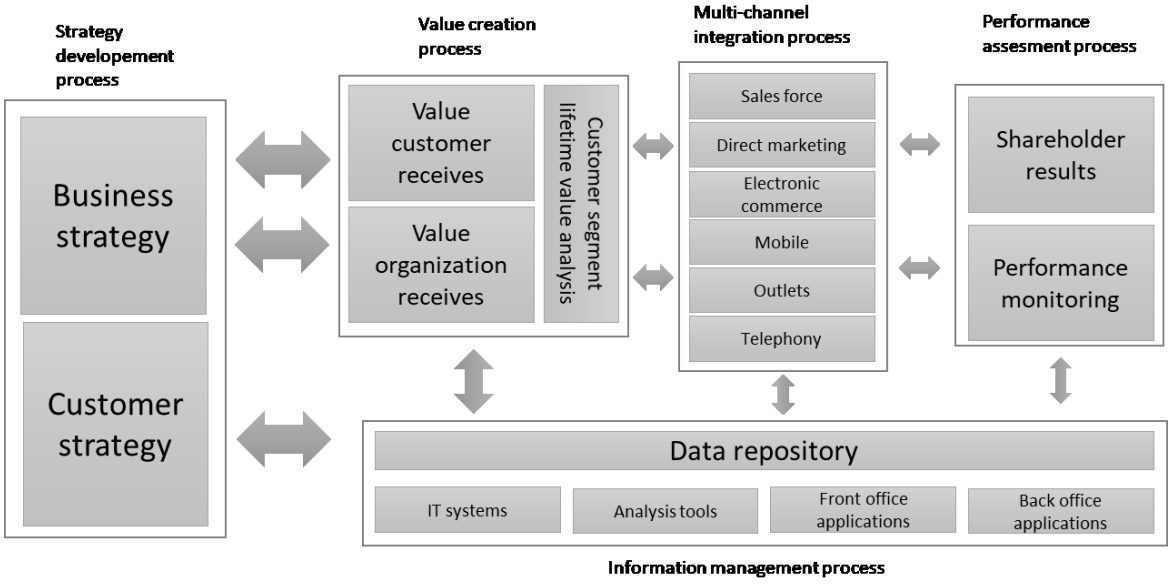

Figure 14. *CRM processes (Payne and Frow 2005)*

Payne (2006) says that information management deals with making sure the quantity and quality of the data are sufficient, that the information can be used before it becomes redundant and that the relevant information reaches the people that can utilize it. Also, on the other hand, information needs to be secure, used responsibly and not available to the wrong people.

Just like the multi-channel integration process, the information management process is heavily linked to technology. Nowadays more and more data are created and used, and the requirements for the infrastructure that can handle the information management process are growing. Information management systems consist of two parts: the data repository, where the information is stored and accessed, and the tools that are used to process and refine the data according to Payne (2006).

3.2.5 Performance assessment process

The performance assessment process is the last phase of the strategical CRM framework as described by Payne (2006). The goal of the performance assessment process is to ensure that the strategic goals of the CRM framework are met. It intends to answer two questions: (1) how is increased shareholder value and profit created and; (2) how should the organization measure and set standards for its performance.

Payne (2006) say that traditionally performance metrics have been function-specific: marketing has been measured by customer acquisition and sales by sales volume. Payne (2006) points out that, CRM, being by definition a cross-functional process, also needs cross-functional performance measurement. Historically, there has not been a common way of measuring CRM performance. This is partly because every CRM project is unique and it is hard to create metrics that are relevant to all of the projects. Another reason for the lack of common set metrics is that the benefits gained from applying a CRM project can be indirect and hard to measure as such. The lack of metrics and standards makes it hard for organizations also to benchmark the best practices.

Metrics that are used can often be categorized as customer metrics, people and process metrics, strategic metrics, output and comparative metrics or special metrics that are used as complementary to the four other types of metrics, according to Payne and Frow (2005). He describes the different metrics followingly: customer metrics measure the value delivered to the customer and value derived from them. For example, customer metrics can be used to measure customer lifetime value or customer acquisition and retention rates. People and process metrics focus on measuring the company's internal factors and how its resources are used in the CRM function. Measuring the time it takes that a new product reaches the desired customers or measuring customer service levels are included in these kinds of metrics. Strategic metrics, such as return on CRM investment or company's profitability, deal with the business objectives related to CRM processes. Output and comparative metrics measure how the CRM project has affected the company's relative situation. Relative market share, or customer retention rate are comparative metrics, and for example level of cost reduction caused by CRM is an output metric.

The following steps are to choose the key performance indicators that the organization wants to use in measuring the success of CRM, establishing a monitoring system and evaluating the return on CRM investment. These KPIs and monitoring systems need to be organization-specific as the success factors are unique to each organization, according to Payne (2006).

3.3 CRM systems

Even though CRM should not be considered only a technological solution, the technological component is a significant part of the CRM process. The CRM system's purpose is to support the different business processes related to the CRM process described above. Foss et al. (2008) define CRM systems as technology-based tools for business management for customer knowledge and customer relationship improvement and management.

One way of categorizing CRM systems is to do it by their functionality. Foss et al. (2008) categorize CRM systems to either serve an operational or analytical purpose. Operational systems aim to improve, reduce costs or automate processes and increase the customer experienced value by these means. Other type of CRM applications Foss et al. recognize is analytical systems. Payne (2006) agrees with the assessment that CRM systems can belong to an operational or an analytical basket, but they add one more categorization: collaborative systems. Oksanen (2010) adds one more category of CRM applications: strategic systems.

Strategic CRM systems have a focus on creating a customer centric business culture and aim to help the organization create better customer value than its competitors according to Oksanen (2010). Payne (2006) describe collaborative CRM systems as systems that enable the customers to interact with the company and its employees via different channels.

Analytical CRM systems aim to collect and maintain customer information and supplying organizations analysis based on the information, which can be exploited in business processes by multiple departments according to Foss et al. (2008). Analytical systems are typically used and integrated with other types of systems, mainly collaborative and operational systems. Analytical CRM systems utilize the data provided for it and make two kinds of analytics out of it: descriptive and predictive according to Oksanen (2010). Oksanen (2010) describes the analytical approaches followingly: descriptive analytics focuses on the past and describing what has happened. Predictive tries to predict upcoming events and opportunities by using data models that combine historical data with other available algorithms.

Operational CRM aims to reduce operating costs and increasing the operations' value to customers. These are typically the front office applications, used in the customer touch points. Sales force automation is one example of a function of an operational CRM system, according to Foss et al. (2008). Examples of this, pointed out by Foss et al. (2008), are automated lead generation from website visits, informing the sales person about

customer's previous interactions during a sales call or a tool for quote making. Operational CRM systems also connect front offices automatically with back-offices. When an operational CRM system is used to create a quotation or a service request is registered in the system, the back-office can also see the information about the transaction.

In addition to functionality, it is possible to sort CRM systems in other ways also. Oksanen (2010) says that different deployment models are one of the ways of CRM system categorization. These include on-premises-, software-as-a-service-, and application hosting models. On premises mean that an organization installs the software physically on their own servers, which enables them to control backups and system updates and disconnections as they wish. According to Oksanen (2010) this freedom comes with a cost and resource requirements of maintaining and managing the servers. Software as a service model means that the provider is hosting the application on their server and giving the company access to it against a fee. Kostojohn et al. (2011) say that the latter is more convenient for most companies, but comes typically with a higher monthly or yearly fee per user than hosting the application on premises. Application hosting solutions are a midway solution between the two previously mentioned. The system licenses are purchased with some fee, and a smaller maintenance fee is paid for the licenses. The customer is then free to install the software either to third parties' server or to their own one

These are some of the decisions, which a company has to make, when they are selecting a CRM solution for their CRM program. Different solutions are better suited for certain uses than others are. These choices affect the orientation of the capabilities of the CRM solution heavily and that is why their consideration is important when planning the CRM system implementation and their alignment with the CRM strategy and goals should be assessed before deciding of what kind of system is needed.

3.4 CRM system implementation process

Oksanen (2010) divides the CRM implementation process into two parts – preparing the implementation and executing it. Preparing the implementation includes defining the goals and requirements of the project, finding the necessary resources and forming the project organization, information and data preparation and finally the selection of the system and system provider. Kostojohn et al. (2011), on the other hand, divide the CRM implementation process to three phases. According to him, the CRM system implementation project starts by building a CRM roadmap, continues by evaluating the software options and consultants and then, finally implementing the system.

After the system selection, both Oksanen (2010) and Kostojohn et al. (2011) see the implementation project quite similarly: planning the actual implementation project, executing the implementation and then maintaining and improving the system. Overall, both processes share a lot of similarities. A framework of CRM system implementation process based on these two descriptions is portrayed in Figure 15. The process has four stages that each consist of three or more distinct steps that need to be addressed.

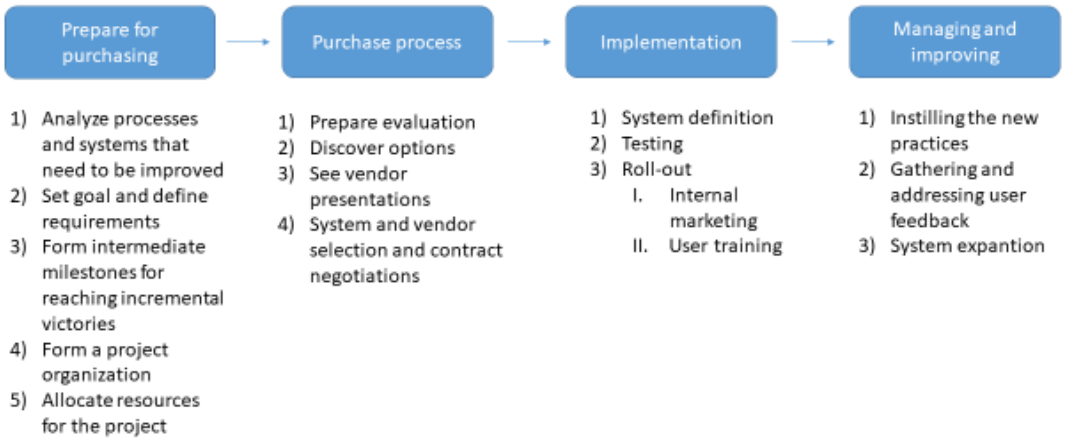

Figure 15. *CRM system implementation process framework*

3.4.1 Purchase preparation process

CRM system implementation should start by assessing the current situation according to Kostojohn et al. (2011). This can be done by mapping the current business processes and identifying causes of disruption, inefficiencies that could be eliminated, or opportunities to improve the processes. In addition to business process assessment also the applications that are used to handle customer information should be cataloged and evaluated in order to get the complete picture of the IT environment and its problems. Finding the redundancies, either in systems or data entry, or the limitations in cross-departmental collaboration is a source of improvement possibilities according to Kostojohn et al. (2011)

After finding the pain points, the root reasons for these problems should be analyzed and a plan for improving them should be made. This includes defining the goals for the CRM project and then suggesting and scheduling a set of initiatives in order to reach those goals. Oksanen (2010) advises defining goals and requirements first emphasizing the importance of proper goal setting over coming up with list of requirements that can easily hamper the progress of the project. Once the goal is clear, it is easier to start defining the limitations and key requirements. Unlike Kostojohn et al. (2011), Oksanen (2010) does not find it necessary to map the processes before implementation, because it can

make the system function definition too rigid, detailed and encourage making unnecessary customizations to the solution that weaken its performance.

Next step is to split this vision into smaller projects. Dividing the vision to smaller projects increases CRM projects' success rate by providing small incremental victories that improve the organizational buy-in and the increments allow the possibility of feedback taken into account while developing the system, according to Kostojohn et al. (2011). He also says that dividing the vision into smaller increments also helps communicating the business impact, effect on departments and business processes, the project's duration and the effort required from the parties involved to realize the changes.

The fourth step in the purchase preparation process is naming the project organization. Oksanen (2010) says that the project organization should include at least the project manager and the system's main user. Oksanen (2010) describes the project manager as the leader of the CRM project. His duties include leading the project on a day-to-day level, being in charge of communication between the system provider and the organization and controlling the implementation process. Ideally, the CRM project manager has experience in project management and business development and is interested in the theme. The second person named in the project organization should be the CRM system main user. Oksanen (2010) says that the main user is often the project manager but it is not necessary. It is important that the main user is enthusiastic and capable; the main user is seen as one of the key components in CRM system successes. He is responsible for user support and monitoring the system use after the implementation. In addition to the project manager and main user, a steering group and project group members should be appointed.

3.4.2 System purchase process

Oksanen (2010) says that there are two schools of thought regarding the system purchase process: scientific and artistic ones. The scientific one has four comprehensive stages: preparation, selection, monitoring and finalizing, with a multitude of sub stages related to each one. Oksanen recommends this model for people that are well versed in information technology projects, but notes it might be too complicated for novices or out-of-the-box solution projects. The artistic model for purchase process can be described also having four stages: creating a foundation, getting to know the market, tendering and checking references and system selection and contract negotiations. This process is artistic in a sense that it is not precisely defined and deviations from initial expectations are probable.

Kostojohn et al. (2011) describe the process of evaluating and choosing the system provider with more depth as having four steps. The steps are: (1) preparing for the evaluation, (2) discovering options, (3) seeing vendor presentations and asking for proposals, and finally (5) selecting the best option and negotiating the contracts.

Kostojohn et al. (2011) say that preparing for the evaluation includes setting up an evaluation team and evaluation assessment guide. All the options should be evaluated by the same criteria and the assessment guide should reflect that. Evaluation dimensions should include the solution alignment with the organization's goals and existing infrastructure, customization flexibility, user experience, technology standards, vendor viability and ecosystem and the cost of system ownership.

Discovery phase, according to Kostojohn et al. (2011), is about finding suitable system providers and clarifying the organization's situation and goals to them so they understand the business cases in order to refine and prepare their solutions and presentations. Vendors should also be explained the outline of the evaluation guide and the grounds for decision-making.

After the initial discovery phase, the vendors should present their solutions and proposals. Before making the selection, Kostojohn et al. (2011) recommend to cross check the vendors' claims by asking or finding reference companies that have experience with the solution or the consultant partner. Selection should be done based on the internal evaluation guide, cost assessment and the reference reports. Selection of the system provider is followed by negotiating and signing the contracts.

3.4.3 System implementation process

According to Oksanen (2010) the implementation process starts after the vendor and system has been chosen. The first phase in the implementation is system definition. System definition, according to Oksanen (2010) means translating customer's goals and requirements to a form that can be carried out by the technology solutions. System definition usually starts by describing the necessary use cases. This can be done scientifically by using process flow charts, or in an artistic manner by writing user stories. The goal is to introduce the system provider's representatives to the details of the business processes so they know how to build the system. These necessary use cases can also be utilized in the user training part of the implementation process. Kostojohn et al. (2011) say that the use case definition phase can also be seen as an opportunity for the customer organization to discuss and refine their business processes. Oksanen (2010) reminds that the output of the system definition process should be a document, which is used as a base for system realization. The final approval is always done by the steering

group. The specification should include agreements about for example the system's features, data migration issues, system integrations, testing protocols, and process descriptions.

Once the system has been designed and the provider has carried out the system set-up, it needs to be tested. According to Kostojohn et al. (2011) testing the system and its customizations is first done by the system provider before delivery, but the end user needs to double-check the system for errors, especially regarding the business processes that the consultants do not understand at the same level. The output of the testing process should be verifying the system's capability for moving it to production, or in case of errors, that prevent doing so, finding and reporting them. Testing should be done systematically and the testing process should include at least the following steps, defined by Oksanen (2010): (1) planning what features are tested by whom and when, (2) creating the testing material, such as opportunities, as there are none in the system yet, (3) testing the documented use cases, (4) testing the features mentioned in design documentation and lastly, (5) free-form testing. In addition to this, the integrations need to be tested as pointed out by Kostojohn et al. (2011). Kostojohn et al. (2011) also say that a person who is specialized in testing processes can do some of the tests, but at least the last testing phase, the user acceptance test needs to be done by the end users once all the other testing phases have been completed. The user acceptance test is done in the system after all the integrations and data migrations have been done and the system is essentially a mirror of the post-launch production system. Once the user acceptance test is passed, the system is ready to be rolled out.

According to Oksanen (2010) internal marketing and change management are key parts of the roll-out process. It is important that the CRM project is advertised in the company before, during and after the implementation. Oksanen (2010) recognizes different needs for the internal marketing depending on the phase of the roll-out process. Before the roll-out the focus of internal marketing should be communicating the change: what is changing, why is it changing and how does it affect people. Just before and during the initial roll-out communication should be about the specifics of the implementation: how does it happen, how does it change the everyday routines, how to get support if needed. During and after the roll-out the communication should be focused on the practicalities: how to access the system, where to find to user guide and reminding the users about new practices. Also, informing the users about the success stories and positive effects can help to accept the change.

Oksanen (2010) recognizes and describes two different approaches to the roll-out process. It can be done all at once or by phasing it out. Practically all sources recommend

doing it by the phase-out method. The different roll-out groups can be divided by organizational departments, roles, or geographical locations. Oksanen (2010) emphasizes that the roll-out process needs to be supported with adequate training programs. When, where and how the training sessions are arranged are important factors for successful result of the training program. The trainer needs to be knowledgeable in the system use, have pedagogical talent for planning and presenting the use cases, examples and exercises used in the training and they need to possess enough authority and change management skills to address the issues raised by the training audience. Training session quality should be monitored by systematically asking feedback after the training sessions. This also provides the users an opportunity to give feedback about the system

3.4.4 Managing and improving the system

Once the rollout is complete, people have been trained to use the system, it is important that the system use is anchored in the everyday routines of the company. Oksanen (2010) says that the first year after the initial rollout is critical in instilling permanent change to the organization. If the new routines have not been internalized by this time it is highly unlikely that they ever are. Oksanen (2010) recommends the following means to prevent lapses in the system adoption process: monitoring the system use activity on organizational-, group-, and individual level, monitoring the validity of the data that is entered into the system, using the CRM system to support other processes, such as distributing information bulletins or information about customers only through the CRM system and following that the new methods of working are abided by.

Oksanen (2010) says that the end of the initial implementation process should not mean that the improvement and development of the system ends; the project group should make sure that supporting structures for the CRM system adoption are placed before disassembling the project organization. Oksanen (2010) points out practices that should be performed in order to further improve the system and ensure its adoption. Feedback should be gathered and processed systematically. Usually the system will be also expanded either by new users or user groups or new features for the system. When dealing with new user additions, it is important that they understand and play by the same rules than all the other users. New feature implementation, at least when affecting the current use of the system, should be arranged in a similar manner than the initial implementation, starting from the goal and requirement definition and project organization formation.

3.5 Success factors in CRM system implementation

There are many themes, which recur in the books and articles that discuss CRM project successes and failures. Management's support is mentioned to be essential to the project success by many authors, such as Oksanen (2010), Payne (2006), Foss et al. (2008) and Kostojohn et al. (2011). Management's involvement is important at every stage of the project. In the end, its management's role to get other people in the organization behind and using the changing methods of work. There might be conflicting interests between departments, resistance to change is natural and changing the routines always needs an external push. Management's change leadership skills are essential for this. Also, it is the management who allocates budget and resources for the projects and support from the higher positions is needed for this to happen.

Besides managerial support, the most common success factor mentioned in the literature reviewed was the correct approach to building and implementing the system. A big-bang approach of implementation is seen as the way to failure by Kostojohn et al. (2011), Foss et al. (2008) and Payne (2006). As pointed out earlier, Kostojohn et al. (2011) recommend that the CRM strategy and vision are divided to smaller goals that offer incremental and visible benefits that ensure the motivation, commitment and support of the rest of the organization. This helps also with the project and change management side of the CRM project, as smaller steps in changing the business processes and routines are easier to handle.

Besides managerial involvement and the approach to building and implementation, the members of the project team and key users of the new system are seen as essential. Oksanen (2010) says that the CRM project manager and the main user capabilities are in the top three factors in a successful project. The project manager is the one who leads the project before and during implementation and needs to be proficient in project management. The main user's role is essential after the rollout as he is the one who addresses and is responsible of the day-to-day problems of the user base, training process and subsequent active support for the users. Payne (2006) agrees to this view by saying that the level of system adoption after the roll-out is highly dependent on the quality of the monitoring and supporting effort done by the main user support.

Software driven projects often fail while the ones which emphasize the strategic significance of the project are more likely to succeed, according to Payne (2006). Also, Kostojohn et al. (2011) say that it is important that CRM projects are not seen only as a new software that needs to be used, but its value for business and reaching its goals needs

to be communicated to the user base. Oksanen (2010) recognizes that the more important the project is seen by the users, the more likely it is to succeed. It is also important the business benefits should be clear and visible to the user base.

The organization's and the system provider's IT skills and capabilities need to be in balance. Lack of IT skills might make the organization too reliant on the system provider's services and problem-solving skills. However, the capability of the system provider and the resources they allocate to the organization's project is also essential as they are the professionals in the field and can help the organization to avoid common pitfalls and offer valuable insights. In-house capabilities and resources are needed for the daily problem solving and system maintenance as discussed earlier. (Oksanen 2010; Payne 2006; Kostojohn et al. 2011)

Payne (2006) says that one reason that CRM systems are not seen as successes often is that they are not measured properly. Either clear goals that need to be achieved are missing, or the reporting and rewarding systems are not adequate.

4. CRM SYSTEM AS A SOURCE OF VISIBILITY

4.1 External visibility and internal integration

The supply chain is a network that connects a company with its different levels of suppliers and customers in order to design, produce and distribute products or services to their end users. Supply chains include the organizations, people, activities, material and information flow related to the task of delivering the produce to the end customer. Supply chains usually consist of multiple levels of producers and customers and can be complex. Figure 16 portrays the supply chain in a simplified manner from the point of view of a manufacturing organization by dividing the other organizations in the supply chain to suppliers and customers depending on their relative position in the chain.

Figure 16. *Supply chain simplified*

According to Donnell et al. (2006) the further away the manufacturer is from the end customers, the worse their visibility of the end customer behavior and demand is. This lack of visibility in supply chains can lead to companies further in the upstream to misjudge demand. Over or underestimating demand can cause problems for example in stock level management or production capacity and in increasing lead times. The effect is amplified the longer the distance from the end customer. This phenomenon is called the bullwhip effect.

The reason for the bullwhip effect is the information distortion that happens when moving upwards of the supply stream and purchase and production decisions are made using local knowledge of the supply chain instead of the real demand according to Donnell et al. (2006). They point out four root causes of the effect: (1) demand forecast updating, (2) order batching, (3) shortage gaming and (4) price variations. The actors on the upstream do not see these reasons for the demand fluctuations and thus overreact to the fluctuations. The bullwhip effect can be counteracted by increasing the information sharing and supply chain visibility according to Donnell et al. (2006).

Supply chain visibility is a topic related to supply chain management. Supply chain visibility does not have a single definition, but it deals with accessibility and utilization of

information in the supply chain. Visibility and information sharing are sometimes used interchangeably, but Barrett and Oke (2007) make a distinction that visibility is the potential result of the action of information sharing. They further define supply chain visibility as the extent to which supply chain actors have access and share information that they deem valuable and of mutual benefit. Caridi et al. (2014) similarly define supply chain visibility as the ability of an organization to access and share information related to the supply chain. They say that sharing of the information is not enough by itself to reach visibility, the information needs to be useful and of quality. Visibility to this kind of information in the supply chain can lead to improved performance and competitive advantage. Figure 17 illustrates the relationship between information sharing, visibility and the potential benefits.

Figure 17. *Information sharing leading to organizational benefits*

Increased visibility can improve an organization's performance in multiple ways. The better the visibility to the supply chain, the better the organization's forecasting, planning and decision-making capabilities. These in turn can positively affect the organization's performance by, among other things, increasing production flexibility and product quality, and by decreasing production costs through decreased inventory levels according to to Barratt and Oke (2007). Lofti et al. (2013) also list benefits of information sharing between supply chain partners. These include reduction in inventory levels, cost reductions, eliminating the bullwhip effect, increased resource utilization and organizational efficiency, reduced order-to-delivery times and faster time to market when launching new products.

Hultman and Axelsson (2007), however, say that, just having access to information is not enough; it might even be detrimental to the organization if futile information interferes with extracting and utilizing the useful information that is shared. For visibility to be beneficial, it must provide effectiveness and efficiency for decision making. Sharing valuable information to external partners is greatly correlated by the trust between the organizations according to Hultman and Axelsson (2007). Customer relationship management approach is seen as one way of building trust between organization and its customers and distributors.

Williams et al. (2013) state that supply chain visibility consists of three different parts. First, on the upstream side, the supply visibility, for example information about suppliers' lead times or inventory levels. Second, on the downstream side, demand visibility, which means, for example, visibility to distributor sales data and demand forecasts. The third type of visibility is market-level visibility, which means access to information about the market as a whole.

Williams et al. (2013) also discuss, that getting information about the supply chain is not enough to improve company performance, but the ability to access the information needs to be accompanied with internal integration. This is illustrated in Figure 18. Internal integration means that different departments in the organization are able to access the needed information flows to collaborate. This ability is achieved through organizational processes and behaviors and are usually facilitated by data management and information systems. Organizational structures often cause barriers for reaching higher levels of internal information flows. Functional, geographical or for example product category-based organizations inside the company can be a source of difficulties for internal integration. The organizational structures and processes should facilitate intra-organizational collaboration, and organizational goals should be aligned.

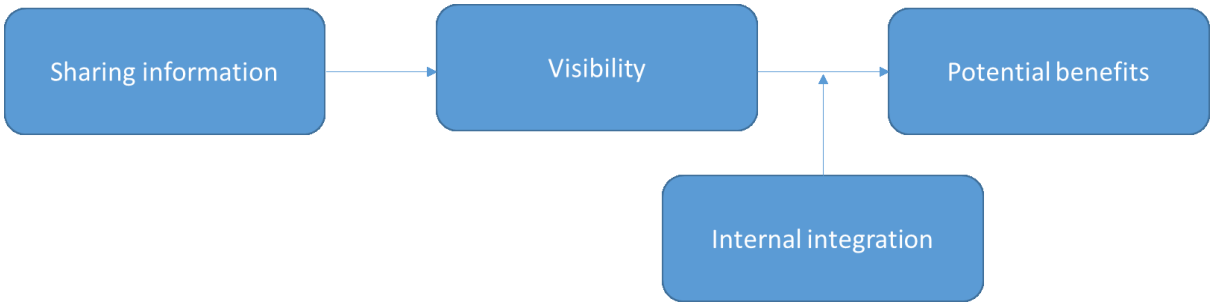

Figure 18. *Internal integration role in supply chain visibility*

Zhao et al. (2011) claim that, at its essence, internal integration refers to the ability to share information between different functions in an organization, as opposed to just having silos of information. This is not a new phenomenon and, for example, lean production systems utilize the same kind of philosophy of information flowing across company functions. Similarly, as discussed in the previous chapter, one of the key strategic processes in customer relationship management was cross-functional information management processes.

Basnet (2013) examines internal integration in more depth and finds that integral integration consists of three dimensions: coordination, communication and affective relationship between functions. Communication between departments is seen as a minimum part of integration. That is the sharing of ideas and exchange of information and having

understanding about the other departments and functions. Another element is coordination between functions: considering other functions and consulting them before making decisions affecting them, having cross-departmental participation in decision-making and synchronizing activities are sources of better internal integration. Positive relationship between departments, sharing the same vision and goals, accessibility and level of communication is the third dimension of internal integration. Figure 19 sums up the different dimensions of internal integration.

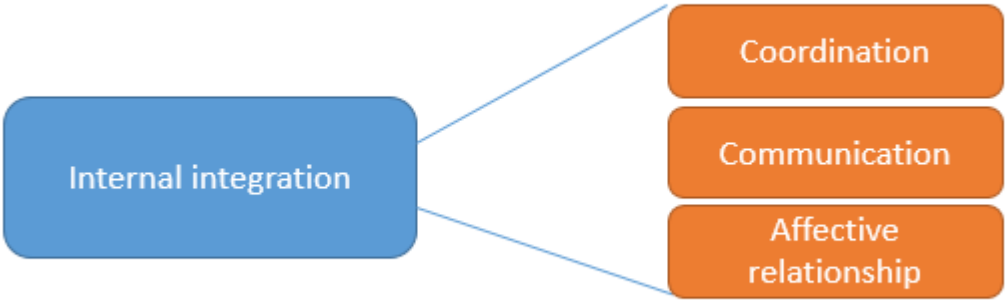

Figure 19. *Internal integration dimensions*

Improving the quality of interdepartmental coordination, communication and relationship can result in increased company performance and customer service (Basnet 2013) and in improved customer (Parente et al. 2002). The effect is clearer in engineer-to-order (ETO) environments than in make-to-stock (MTS) environments. ETO products demand more interaction between sales and back office departments than MTS products according to both Parente et al. (2002) and Basnet (2013), so it is natural that internal integration between can help them create customer value better.

Konijnendijk (1993) says that on engineer-to-order environments, short-term coordination between sales and production is the problem, compared to make-to-stock environments where the problems are more usually caused in the mid-term period. Konijnendijk (1993) says that ETO companies are not usually so heavily interested in the mid-term planning. This might be because the longer the forecast's and planning's time horizon is, the more inaccurate the estimations are and as pointed out by Konijnendijk engineer-to-order planning is more dependent on the actual customer order or specification than make-to-order organization. He points out that coordination problems between sales and

production are caused by problems in getting the order specification. This leads to increased lead times and less accurate lead time estimation, which are seen as a key factor in competitive advantage in ETO environments by Hicks et al. (2000).

Utilization of appropriate IT systems is a key part of both gaining timely visibility to external sources and achieving an adequate level of internal integration according to Williams et al. (2013). Enterprise Resource Planning systems and Customer Relationship Management systems can be used for both purposes. Li and Mao (2012) state that ERP systems and CRM systems share abilities to affect a company's performance by specifying standard and replicable business processes and creating internal transparency through increased visibility and the ability to control those processes. CRM system as a source for creating and benefitting from demand visibility could be presented as depicted in Figure 20.

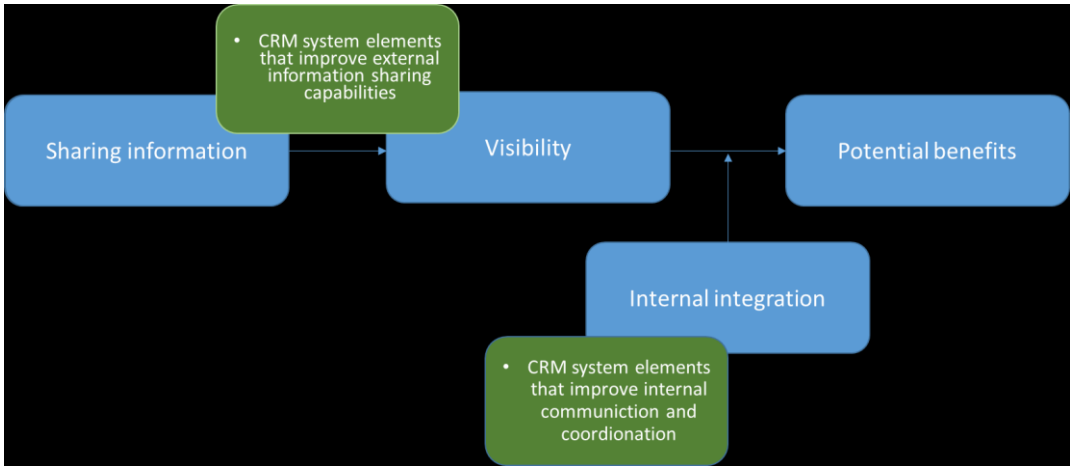

Figure 20. *CRM system creating organizational benefits through increased external visibility and internal integration*

In order to CRM system to help reaching benefits from increased demand visibility, it needs to have elements that contribute to information sharing between demand chain partners or elements that improve the factors supporting internal integration. Ideally, a CRM system could assist in both of these categories.

4.1.1 CRM system role in creating external visibility

As presented previously, in order to gain benefits from demand visibility, two requirements need to be fulfilled: visibility of the downstream must be achieved and the gathered useful information must be diffused to the parties in an organization that can utilize it. CRM system can create visibility to market and customer actions in multiple ways.

Customer relationship management, this time understood as the approach to business, not as the technological solution part of the phenomenon, aims on improving and managing the different customer relationships. Naturally, the better the chosen customer relations are, the better the understanding and trust between an organization and these customers. As noted before, trust and understanding positively affect information sharing between supply chain partners. Thus, customer relationship management focus can create better demand visibility.

Focusing on the possibilities provided by the CRM systems, Zablah et al. (2004) state that CRM systems can be used as knowledge management systems in order to provide the organization knowledge about desirable prospects, customer intentions and needs and emergence of market threats. Figure 21 shows the knowledge management process in a graphical form.

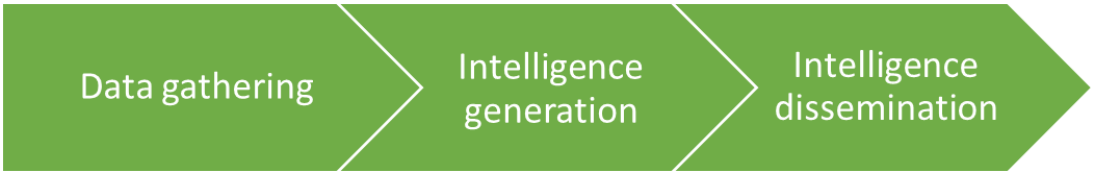

Figure 21. *CRM knowledge management process (Zablah et al. 2004)*

Data collection can be done with the collaborative and operational components of CRM. Collaborative, that is the components of CRM systems that focus on providing and connecting different channels, can be used in collecting market and customer data from for example customer interactions from different touch points or by visitor behavior while visiting organizations website. Operational parts of the system can be used to gain further data about customer and markets by for example using CRM functions to automating customer satisfaction surveys. These methods can also be combined, by for example placing a product configurator on the organization's website where potential clients or distributors can themselves make requests for quotations of products of their interests.

Generating intelligence from the gathered information can be done by the analytic functions of the CRM system. Analyzing and reporting capabilities of CRM systems can convert the collected data to a usable form. Continuing on the product configurator example, the data collected from customer-made quotation requests could be analyzed to see trends of customer interests changing over time or depending on the region.

The intelligence dissemination can be handled by the operational CRM components. As discussed in chapter 3, operational CRM can link the front office functions to back office functions.

4.1.2 CRM system role in internal integration

Internal supply chain integration consists of three dimensions according to Basnet (2013). These dimensions (communication, coordination, and affective relationship) were introduced earlier in this chapter. Besides the cross-departmental relationship building, CRM systems can help create better internal communication and coordination. As mentioned above, operational CRM system can be used to link departments, and facilitate information flows and coordinate actions.

CRM systems can include functions that notify different departments when a specific action happens, or can even have built-in collaboration tools and workflows that make it easy or mandatory to inform or coordinate with other users to perform those actions. Market information, such as forecasting data or internal information such as free production slots and lead times for different products at given times can be shared through the organization with different kinds of CRM applications.

Even though out of scope of CRM system implementation, it should be noted that as depicted in Chapter 3, CRM should not be considered as only an IT solution but as a realignment of business focus or a strategic change towards more customer-oriented direction and should start by revisiting company's business and customer strategies. This is a good occasion to make sure that all the departments share the vision and their goals are aligned as these were factors affecting the departmental relation and thus affecting the internal integration, as noted by Basnet (2013).

4.2 CRM system role in control creation

Li and Mao (2012) state that the research on CRM impact on organizational performance is focused on financial terms and customer related benefits while research on CRM systems operational benefits is lacking. In their study, they found that CRM system is suitable for improving internal sales management control. Different views of organizational control systems were introduced in Chapter 2. Two categories of control were recognized: formal control and informal control. Formal control could further be divided to input, process and output control (Jaworski 1988) or to output control and behavior control (Anderson and Oliver 1987).

Being able to utilize any kind of control method, the management needs to be able to specify and track the requirements of the said control method. If management does not have visibility to track sales personnel's actions, behavior models cannot be used, or if the outcomes of sales personnel actions are unclear, for example when multiple stakeholders have contributed in a sale, it is difficult to reward or evaluate the person based on the outcome.

Li and Mao (2012) believe that the method by which enterprise systems in general, and CRM systems specifically, increase control capabilities has to do with the embedding of institutional practices and processes that are built into the systems. By following these practices, the sales force enables the managerial intervention, monitoring and evaluation of the actions performed or result of those actions. Measuring the impact on sales control during or after system implementation can be done by identifying the manners that sales management could use to control the sales force before the CRM system implementation and comparing them to the manners they have available after the CRM system has been taken to use.

In the Li and Mao (2012) study, output control methods were improved by the management seeing not only the number of contracts signed and their value as was the case before CRM. After the CRM system implementation, the management had visibility to interim results for these output figures, such as amount of sales leads converted and sales opportunities upgraded. This allowed management to quantify and understand the sales persons work status and progression better.

Behavioral controls were not officially utilized and the management relied on weekly sales meetings and direct observations when trying to manage the non-defined sales process. CRM system implementation enabled defining steps that the sales force needed to complete and log in in order to move forward in the process. They also introduced a new management process that monitored that the sales force was updating their records, and used the system data as a base for the sales force evaluation. (Li and Mao 2012)

Sales control can be improved by defining processes and actions that need to be done. These can be seen, monitored, evaluated and whatever through the system, be they additional output metrics or visibility to salesperson actions. Also, the formalization and availability of silent information and organizational habits increase the informal control methods by aligning working methods based on the study conducted by Li and Mao (2012). Informal control, i.e. the social control enforced by the sales force or community itself, was also improved by the CRM implementation in the Li and Mao study.

4.3 Framework of CRM system capabilities

CRM project's goal should be providing value to the organization. Base on the literature review in Chapter 3, CRM projects should not be just IT system projects, but strategic projects that change how the company can better create customer value through customer relationships and how to manage these relationships so that their lifetime value for the organization is maximized. CRM initiatives can result in added value for the organization in many ways. In this chapter, a framework that provides information how a CRM system implementation can provide value for a company through increased demand visibility, internal integration and sales control. This framework is presented in Figure 22.

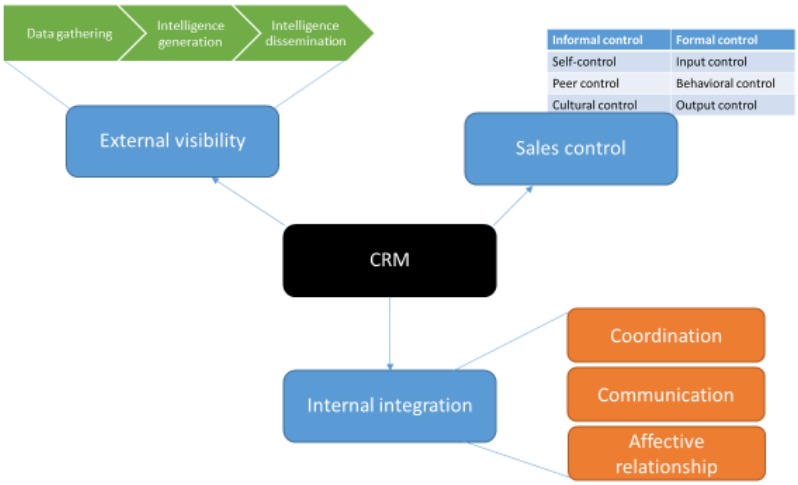

Figure 22. *Framework of CRM systems as a source of demand visibility, internal integration and control*

A CRM system can create external visibility through enabling better data gathering from the demand chain with collaborative and operational elements of CRM system that encourages and facilitate information sharing. This data can be refined to useful information using analytical capabilities, such as reporting tools.

Visibility to external information needs to be mediated by also internal integration to draw benefits from it according to Williams et al. (2013). CRM systems can increase internal integration through system features that improve cross-departmental communication and coordination such as workflows and database accessibility.

Sales control has been shown to improve sales performance through different methods. Both output control and behavioral control can positively affect sales performance on an

individual and on an organizational level according to Malek et al. (2018). CRM systems can be used by sales management to achieve better visibility to output measures, and gain better understanding of sales person behavior and they can even increase informal controls through individual or organizational adoption of defined processes and organizational goals, according to Li and Mao (2012).

The following chapter introduces the case company of the thesis, and the problems and justifications for its CRM system implementation project. Later, the results of the project are presented, and in the seventh chapter these results are compared to the framework created above.

5. CASE COMPANY AND INITIAL SITUATION

5.1 The case company

The case company is a manufacturing company with a worldwide customer base and distribution network. The business of the case company is designing, manufacturing and servicing hydraulic aerial platforms (hereafter “lifts”*)*. The case company employs approximately 430 employees in total, with about 20 people in sales or sales-related roles. The organization consists of the parent company, Case Company Oy Ab, and four sales subsidiary companies in Germany, Switzerland, Sweden and United States. These five companies sell lifts and services either directly to end customers or to the company’s distributor network, who deals with the end customers in their area(s) and deliver the units to them. The distribution network covers over 100 countries and there are lifts manufactured by the case company in over 120 countries at the moment. The majority of the designing and manufacturing is done in Finland, with the case company having manufacturing sites in Tampere and Pori. The company also has sites for service operations in the countries where the sales subsidiary companies are based.

The worldwide market is divided into four sales areas: (1) the Americas, (2) Europe, (3) Middle-East-Africa, and India (MEAI) and (4) Asia. Within these sales areas there are sales area managers, who are responsible for sales and the distribution network management within their areas. Besides the geographical division, the market is also divided by two distinct product families, firefighting products and industrial products, with some of the sales area managers working mostly on industrial products or on firefighting products, and some handling both market segments. The responsibility areas of the sales managers are somewhat overlapping given the segmentation differences and not strictly limited to the market area division either.

Division of lift sales between firefighting and industrial products is important since the requirements, buying processes and customer types are different. Where the industrial unit business (hereafter “Blue Business”) is more focused on commercial customers, less-customized solutions and direct selling, the firefighting units (hereafter “Red Business”*)* are sold more through distributor networks to municipal organizations through tendering processes and are usually more complicated, engineer-to-order solutions that rely heavily on collaboration with the back-office staff due to customization requirements.

As the served markets are by nature very different, having regional resources dedicated to both segments is both an advantage and disadvantage. Advantages are gained

through sales cost efficiency, but in practice also generate a compromise in terms of segment focus, often to the disadvantage of the Blue Business. It is worthwhile to note however, that this situation is not as critical as the Blue Business is not yet developed in many of the markets where Red Business demand is significant.

All the lifts manufactured by the case company consist of two main components: the chassis and the superstructure. The case company's core business is designing and manufacturing the superstructure and mounting it on a commercial chassis. The superstructure itself consists of a mainframe, outriggers and a turntable that connect the boom sections and the working or rescue cage to the chassis and provide stability when the lift is jacked up for operations.

In addition to these main components that are present in all the lifts produced by the case company, other typical components that are provided are the bodywork on the unit, water pumps, piping, water tanks and foam systems for Red Business products. On Blue Business side element lifting systems are a typical addition to the basic lift. Figure 23 illustrates the main parts of a lift.

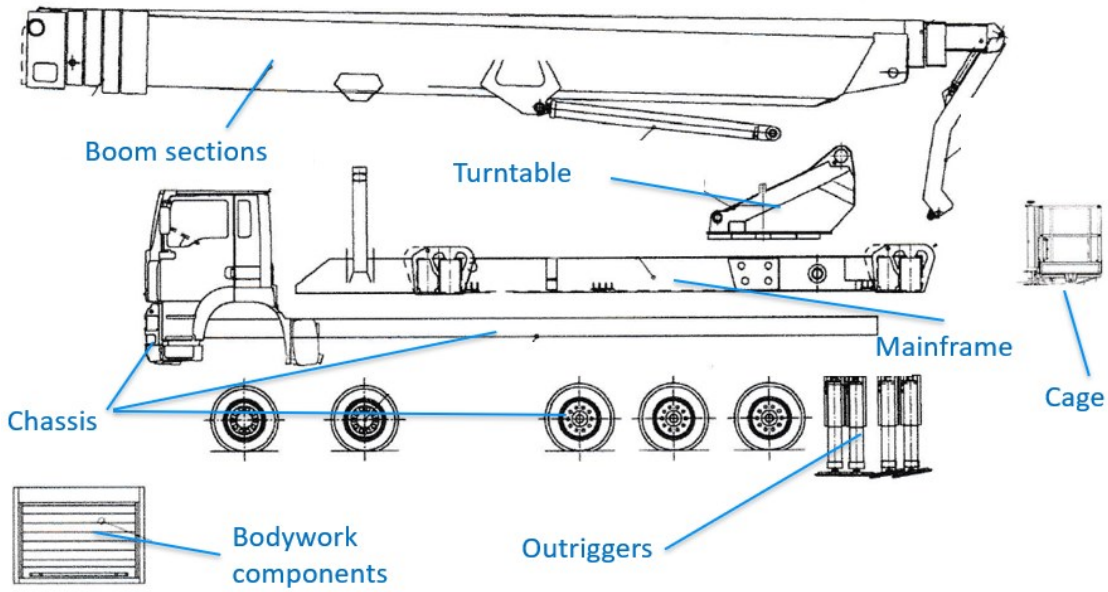

Figure 23. *The main components of a lift*

The starting point of the designing and manufacturing process is typically the tender received from the customer organization. Customers typically have a preference or an obligation to use a certain type of chassis. Municipal firefighting organizations or private companies might only utilize a certain brand of commercial chassis because of already established servicing and maintenance networks or contract or personal preference. As a global supplier of hydraulic aerial platforms, the case company needs also to consider differing laws regarding vehicles and traffic codes. Axle weights, turning radiuses and

transportation dimensions are factors that need to be taken into consideration first when trying to affect the customer requirements and later when responding a tender and designing the lift. This process requires either comprehensive knowledge of the product and the requirements in the destination country by the sales person or close communication with the customer organization, suppliers and the case company's engineering department.

Similarly to the chassis, there are different legal or local requirements for the typical additional options mentioned earlier. Firefighting organizations typically have strict requirements for pumps, piping, water tanks and foam systems provided to them. These components need to be included in the initial design as they affect the weight distribution of the lift. Also, depending on the lift and the chassis type and other customer specific requirements, finding space for the additional components might be challenging. Also, the amount of additional options can be significant. A complete vehicle, like the one pictured in Figure 24, only resembles the illustrative drawing of Figure 23.

Figure 24. *Complete lift*

The chassis and the other components mentioned earlier are often purchased from outside suppliers and their lead times heavily affect the lead time and production planning activities of the case company. Having accurate information about these components helps the designing and quoting process but without having the chassis or the pumps physically available early enough and at predicted times can hamper not only the production process of the focal lift, but also disrupt the production flow of the whole organization when the reserved production slots in different production cells need to be moved, which in turn affects the assembly of other lifts. That is why it is integral that information

about the requirements for these components are communicated throughout the organization as early as possible. As mentioned in the previous chapter, reducing lead time and being able to accurately estimate them are important sources of competitive advantage in engineer-to-order business environments.

One characteristic of the business is long sales cycles and lead times, especially on the Red Side. Multiple chassis providers, other critical parts, 6-12 months delivery times, high working capital, and limited production capacity highlight the need for accurate operations and planning. Purchases and deliveries are somewhat seasonal, Blue Side demand before summer and municipal orders early in the year once budgets are confirmed with deliveries usually at the end of the year.

The goal for the company is to “grow sales considerably” during the present strategy period. Significant changes are needed for such growth to be feasible. On the sales side there is a desire to modernize the current sales process by implementing technological solutions and thus increase sales efficiency and effectiveness. The next chapter discusses problems with the current system.

5.2 Project background

Forecasting quality and the problems caused by it were seen as one of the key problems when deciding to start the CRM initiative. Operationally, at the company level, the forecasting process was done by collecting excel sheets monthly from each sales manager related to the potential sales opportunities in their respective areas. The sales director then went through these excel sheets and combined them into one compound forecast that was used as a base for the sales and operations planning and budgeting processes. This was a manual process, with hand-picking some of the sales opportunities from each sales person based on their approximation of how probable the sales opportunities were and how far ahead they forecasted the expected order to happen. The problem with this approach was that it took a considerable amount of time for the sales director to do this by hand, the excel sheets were often late or not up-to-date when finally sent to the sales director and only updated once a month. The forecasting excel also only included the very basic information about the products and, even then, the information might have been incorrect as the template from last month was usually just reused.

Forecasting problems were not only caused by the rigidity and clumsiness of the current forecast reporting practices. The nature of the business made it difficult to get reliable information from customers. One of the sales managers gave an example of a significant

deal that had been agreed with a customer: the tender had been won, but between signing of the documents and receiving the down payment, the political situation in the destination country changed, and the deal has been on hold for over a year now. Another one of the sales managers explained that in his area with proper expertise and experience it is easy to forecast whether a deal will be won or lost, but the status of the order "can go from zero to hundred to back to zero just like that".

Geographical and organizational distance between the sales personnel and end customers also created other types of problems. Using intermediaries is a cost-effective way of reaching wider markets but creates its own kind of challenges. In many market areas the case company has passed on the sales and servicing to its distributor or partner network. The distributors, however, could not make any kind of new business quotations without getting the quotations first from the case company's sales department. As the quoting process is quite labor intensive and the resources of the sales personnel are limited, the distributors had incentive to paint too positive pictures about the probabilities and timelines of the deals they reported to the case company in order to rise to the top of the priority lists. As the distributors were also responsible for servicing operations in some areas, but there were no set processes of communicating about the servicing actions performed between the distributors and the case company, the problems with the units the end customers faced did not always reach the Finland offices.

The lack of visibility to end customer operations was also a problem even in cases where it was the in-house service department doing the operations and maintenance for the customers. One sales manager told a story about him going to meet an old customer for discussing a new sale and being blindsided by complaints about an absurd maintenance needs and costs occurring to the last unit they had purchased. The information about these servicing operations had not reached the sales manager because the servicing operations were handled in a different system where the sales department did not have access to and there were no internal processes defined on informing sales about maintenance operations done to their customers. Complaints were also many times directed at the field level service workers who faced the customer's user-level employees and the oral and informal information was not reported to any systems.

Unreliable and delayed forecasting data also caused difficulties to the production-planning department. As a big part of the company's sales are engineer-to-order products, and virtually all of the sales are make-to-order products and, thus, need individual focus on project planning and scheduling. Lack of visibility to the upcoming orders made production capacity tracking and planning difficult. The sales personnel inquired about the

potential delivery times from the scheduling manager, but as the information about expected order date changes did not always reach the scheduling department, the production workload estimates were uncertain and the scheduling was forced to only use guesstimates even in the short-to-mid-term planning.

Production planning and engineering faced another problem that was caused by the lack of appropriate system controlling the order intake process. Because the sales personnel had to fill and copy information manually from and to different excel sheets and systems, human errors in order taking and communication often happened. Also, as the manual system allowed individuals to enter the information freely, some of the sales personnel had developed their own shorthand with the order intake documentation, which left often room for interpretation for the back-office staff. During the quotation process, these excels were used by the sales personnel to price the products, but not systematically distributed for visibility or review before the sales process had been completed. Errors in product costs, missing costs for optional equipment and especially lack of proper specifications of non-standard features caused a headache in multiple different departments. Product managers found it hard to keep track what kind of options and features the customers were after as the repetitive requests for some solutions were drowned in the excel files and differing order entry practices.

Engineering management also had a problem because they could not anticipate the workloads and amount of open cases assigned to an individual engineer as the upcoming projects were not always communicated in time, or engineering management were not aware of the projects the engineers were assigned as the communication tended to stay between sales personnel and the responsible engineer. The amount of work for an engineer depends on the case complexity and stage it is in the sales pipeline. This caused either bottlenecks in the quoting process as sales personnel had to wait for the documentation they had asked or quotes made based on wrong or expired information.

The company also launched a new gate model for the sales opportunities, where the sales process depended on the complexity of the technical requirements of the deal. However, the sales persons were often too optimistic about the simplicity and feasibility of their quoted products, and did not inform the engineering and production planning in time or at all about some particulars of the deals. Also, as communication was typically between the sales person and the engineer designated to the sales area in question, information was not diffusing to the rest of the organization. This meant that sometimes projects, in the worst-case projects that needed significant amount of resources, just popped up at the last minute before closing the deal or even after contracts had been signed, and forced extra work for the engineering and planning department.

The sales director also did not have visibility of the amount of offers sent to the customers. This made it impossible to use some metrics for sales organization's measurement and control, such as measuring the strike rate of the sales force, as the lost deals were not often reported. Not reporting the management about offers sent out also meant that systematically tracking the reason for losing or winning the sales was impossible. Developing sales practices or product features based on information on past deals would be an advantage to both sales and product management.

As part of the credit policy, the company's owners set some restrictions to the sales process that the sales management needed to enforce. These restrictions were mainly about managing the risk of the potential sales opportunities, or about low-margin sales. As there were no records on the quotations that were sent, monitoring the situation about non-compliant quotations was a manual challenge. It was managed in yet another excel sheet, in which the deals that did not comply with the compliance standards were logged. However, the company owners and auditors demanded more transparent and reliable records of these approvals.

Account management process was also insufficient. The customer account information database was managed in the company ERP system. However, the ERP database was somewhat lacking, and it was managed by the finance department, which rarely communicated with the customers. The contact information for the companies and the persons the sales department dealt with was in many cases missing or outdated. The ERP system did not allow linking distributor contact information or credit check documentation to the system, but they were handled in excel sheets and different folder archives. In addition to this, many of the foreign-based sales personnel could not even access the system, and the information about the companies they were dealing with. Conversely, the contact information of companies and persons that the sales personnel were actively using were not available to the rest of the company. The information flow network in the initial situation is described in Figure 25.

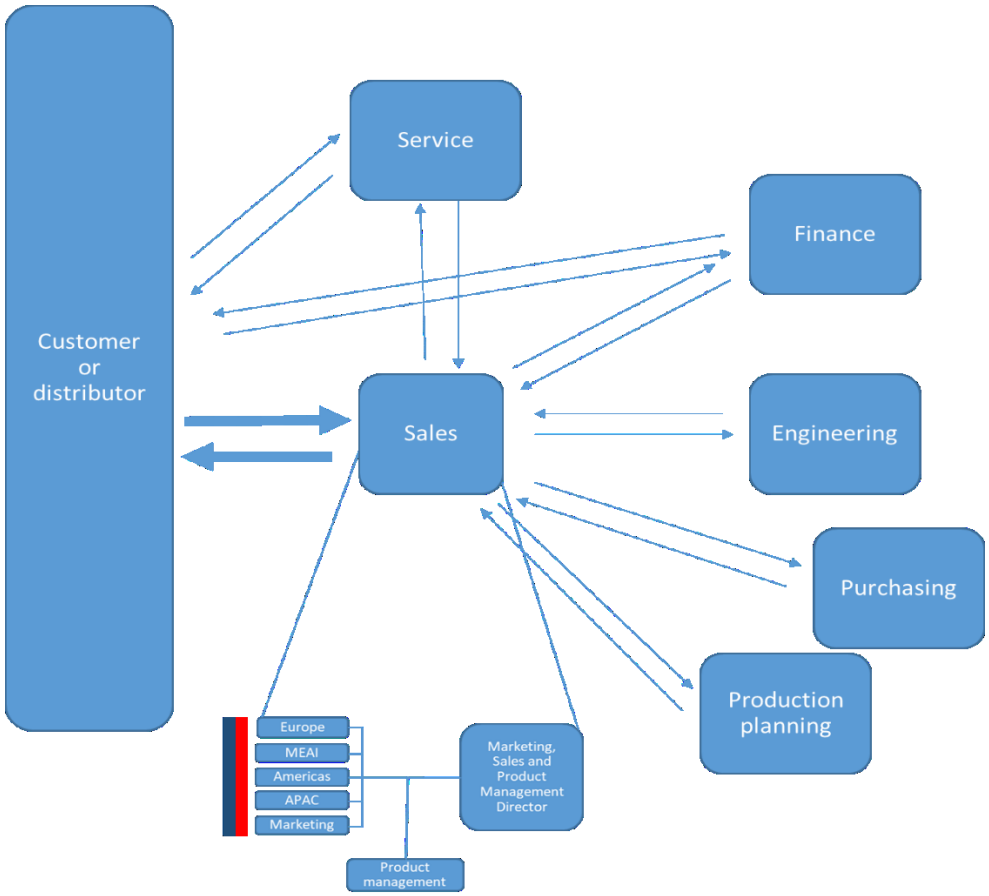

Figure 25. *Information flows in new business sales (past)*

In addition to only having informal communication processes during the sales process, sales department also had to use multiple formal systems when creating internal orders. Different excel forms, word- and pdf-documents were created manually to be sent to the customer or internally to further specify information that was logged in the company's ERP system or the company documents handling software. Sales personnel were frustrated by this extra work that did not create any value for customer and caused further work down the line when discrepancies in information between systems was found and needed correcting. All in all, multiple developmental targets were found across the sales process. The most important ones are listed in Figure 26.

Category	Issue
External visibility	Accuracy of information received from distributors and end customers
	Different customer communication channels not integrated, for example sales and service not aware of each other's actions
	Lead generation from exhibition contacts, website visits and other sources
Internal integration	Information about upcoming deals decentralized and not available when needed for other departments
	Forecasting process in excels that are updated late and combined manually
	Information about reasons deals were lost or won not available
	Implementing a gate model for sales opportunities
	Back office workload distribution tracking
Sales process and control	Quotes, internal specifications and calculations were done manually, which left room for mistakes and extra work needed
	Multiple information systems that are needed for calculating quotations and reporting deals
	Compliance approval process for deals that do not abide to internal rules or limits
	No visibility on sales personnel activity

Figure 26. *Issues recognized at the start of the project*

The issues are divided to three different categories, reflecting the framework created in Chapter 4. Issues were recognized in all three of them, with internal integration having numerically the most issues.

5.3 The implementation process

The implementation process in the case company started by discovering different options for CRM system providers and what kind of solutions they were offering. In total six different systems were shortlisted during the choosing process: four systems offered customizable platform and two of the systems that did not. The non-customizable systems were a lot cheaper and lighter solutions that would have served only the pipeline management purpose in a limited manner. As the desired scope was not clarified yet, these options were held in consideration and even tested by the project group for some weeks before deemed insufficient.

Of the four main options, one did not respond to the project team's contact requests so they were dropped. The remaining three were interviewed and invited for holding demo presentations about their solutions. Of the three providers, two were already in business with the case company. One provider was also the provider of the company's ERP system and the other already known provider provided the company's financial management software. The one remaining provider was the global leader in the CRM system industry. The shortlisted options and the final reason for their approval or rejection is shown in Figure 27.

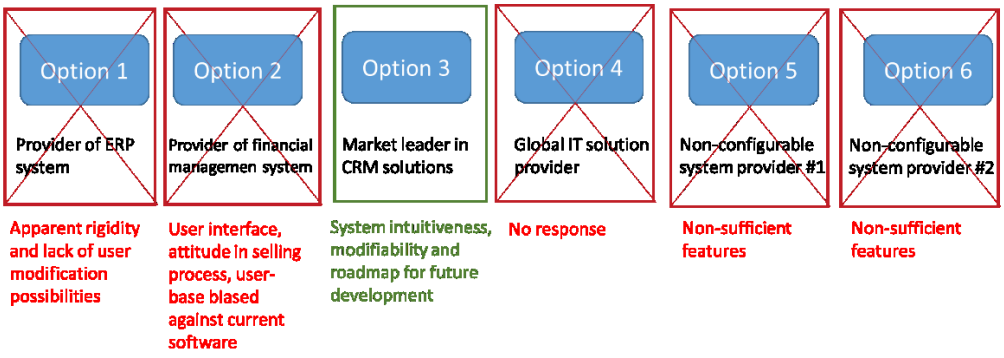

Figure 27. *Final decision reasons for different shortlisted options*

As the scope was not clear, the providers presented solutions for different scopes and affected the roadmap planning process. In the end, the other already known provider was dropped from the consideration based on limitations in the user interface, approach to selling and the negative attitude towards the provider based on the issues with their software already in use in the case company.

The final decision was made between the ERP system provider and the global leader in CRM solutions. The system provided by the ERP provider was much more rigid and limited but offered advantages related to system integration, solution's cost structure and the relationship between the organization and provider. In the end, the case company favored the market leader's solution based on the system intuitiveness, vision for system expansion and improvement and the ease of user modifications.

After the agreement, the system definition process was quick. The implementation was performed following agile minimum viable product (MVP) -method. This meant that instead of building the system on the software platform all at once, a simple but functional solution was built first and it was improved using short sprints of one week, with daily development and feedback sessions guiding the development. Comparison of this method and the traditional one is illustrated in Figure 28.

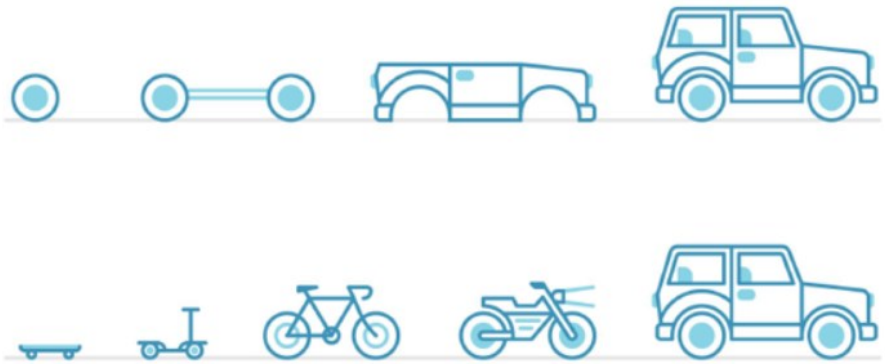

Figure 28. *Agile method (below) compared to traditional software projects (above)*

The system definition process took five weeks. After the first two weeks the basics of the system were functional and the project group could start using the system. Iterative nature of the agile method and the continuous testing of the system allowed errors in the systems to be fixed early on and the main users got to know the system from early on.

The user roll-out was done in two phases, first the main user group was introduced to the system. Later, when the sales personnel had internalized the system use, roll-out was extended to the back-office staff. Training sessions were organized in small groups so the trainees could have personal assistance logging their backlog of sales opportunities in the system. Additional training and assistance were offered to the ones who needed it. System maintenance and improvement phase is still on-going, with some minor improvements on the worklist.

6. PROJECT RESULTS

6.1 External visibility improvement

Focus of the project was not opening or improving the already existing customer touch points, or opening system integrations to the demand chain partners. Thus, the main improvement on external visibility resulted from improving the forecasting process and the reporting and information dissemination processes related to forecasting.

The forecasting process was changed from requesting a monthly excel from each sales manager to utilizing the CRM systems built-in reporting tool. With the reporting tool, filtering the opportunities marked for forecasting by different areas, sales persons or product families for next month's, quarter's or year's forecast is significantly a less labor-intensive task than before. The new system, however, did not eliminate all problems. The sales director commented that he still needs to encourage the sales managers to update their records. Also, the accuracy of the forecasts was not the best. The sales managers were systematically too optimistic in their assessments of deal probability and closing date.

While many of the challenges were and remain around data quality due to irregular updates, especially as it concerns probability and closing dates, it is important to note that certain practical actions have been taken to address in-built optimism. One such change was the introduction of a combination of probabilities, defined as follows: Opportunity probability = P1 x P2, where P1 means the probability that the customer will make a positive purchasing decision by the expected closing date and where P2 means the probability that the customer favors the case company.

The introduction of this combination of independent probabilities has assisted sales to objectively evaluate two very distinct yet fundamental factors that together yield a surprisingly accurate picture of the overall probability of a sales opportunity. Through trial and error, it has been concluded that opportunities with P1 x P2 greater or equal to 32% are worthy of being included in sales forecasts. The two-dimensional probability assessment table is shown in Figure 29.

Table of total probability (P1 x P2)

P1/P2	0 %	20 %	40 %	60 %	80 %	100 %
0 %	0 %	0 %	0 %	0 %	0 %	0 %
20 %	0 %	4 %	8 %	12 %	16 %	20 %
40 %	0 %	8 %	16 %	24 %	32 %	40 %
60 %	0 %	12 %	24 %	36 %	48 %	60 %
80 %	0 %	16 %	32 %	48 %	64 %	80 %
100 %	0 %	20 %	40 %	60 %	80 %	100 %

P1	Probability that customer will buy by expected date
0%	Customer will not buy, opportunity is not real
20%	It's unlikely that they buy
40%	May buy, but it's more likely they don't buy
60%	May buy, and it's more likely they will buy
80%	It's almost sure they will buy
100%	Confirmed that they will buy
P2	**Probability that customer will buy from Bronto**
0%	It's sure that competitor wins
20%	Customer strongly favors competitor(s)
40%	Customer somewhat favors competitor(s)
60%	Customer somewhat favors Bronto
80%	Customer strongly favors Bronto
100%	It's sure that Bronto wins

Figure 29. *New forecasting practice, two dimensions of probabilities*

In addition to probabilities, the CRM system introduced many more data fields that allow for more in-depth forecasting and reporting, including but not limited to project classes and related customization requirements, scope of supply, and more in-depth cost analyses.

6.2 Sales process changes

The case company had not had a dedicated sales director for some time before the current sales director was appointed. The CEO had acted as a sales director among his other duties, but had had a hands-off sales management culture. There was no well-defined sales process. Sales persons shared information on a need-to-know basis with the rest of the organization and they were allowed to manage the sales process from beginning to closing with little control. With the implementation of the CRM system, a common sales process was defined with some standardized actions that needed to be followed and could be controlled. The new sales process phases are illustrated in Figure 30.

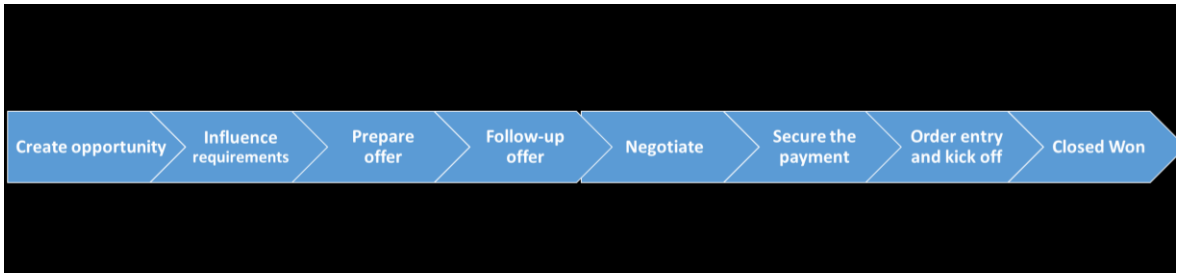

Figure 30. *Sales process phases*

Before the CRM system, there was no easy way of sharing information in a way that it was easily recognizable to belong to any given sales opportunity and that it was accessible to the personnel related to the opportunity. Also sharing or filing the documentation was not required before closing the sale. This was sometimes the cause of problems as

mistakes went unnoticed. One of the requirements under the new sales process was uploading the relevant files on the sales opportunity in the CRM system. This granted sales management and other departments visibility of what had been offered and possibly catch errors before it was too late. Documentation sharing worked also in the other direction and now engineering department could also upload case specific drawings under the relevant sales opportunity.

The approval process was previously done by emails or oral confirmations. As the sales director did not have visibility of the offer base, he had to trust that the sales personnel had remembered to ask for the approvals for all their offers and that they had made the calculations correctly. This process was deemed to be too unreliable, so an approval process was integrated into the CRM system sales process. The system allowed time stamps of each approval process completion, and the sales director now had visibility to the pipeline so he could even be proactive if he noticed borderline deals without approval requests. At the moment the quotes and calculations are still done manually, so the system is not yet foolproof but a step forward from the previous process. Rejection process flow is described in Figure 31.

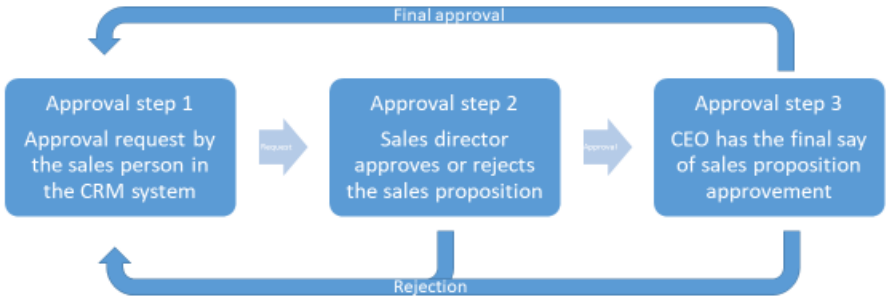

Figure 31. *Approval process flow in standard use case*

The CRM system allowed also more detailed pre-sales process for the more complex deals. Previously, sales personnel could just make quotations as they saw fit, and sometimes they overpromised with the technical features of the units without consulting the engineering department first. This caused problems in engineering, as they needed to use their resources for designing the solutions and often these promises led to either exceeded costs or inferior performance than what was promised. Now the sales process includes nominating an engineer for each case from the start, and they are responsible for approving the stated level of project complexity. This is the Gate 1 seen in Figure 32.

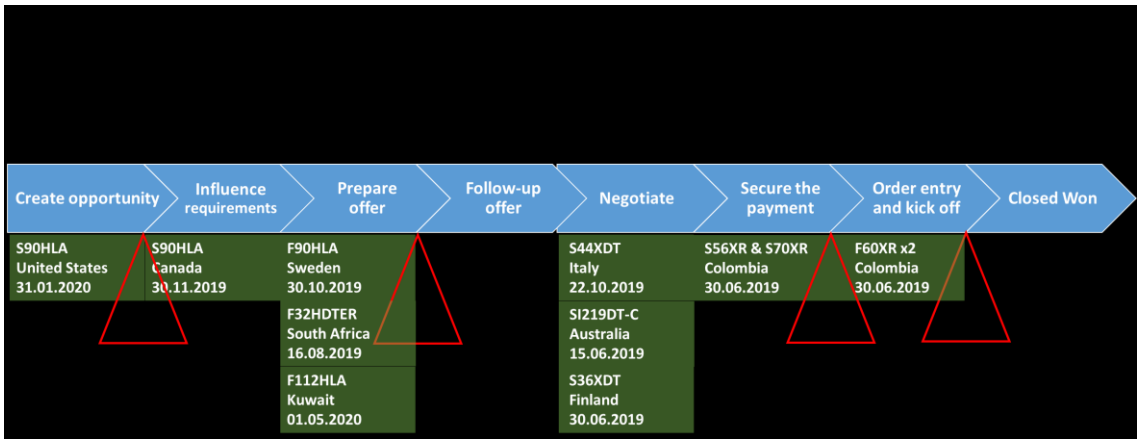

Figure 32. *Sales pipeline and formal gates in the sales process*

The support engineer now checks the project specification and either accepts or changes the project class. Based on the project class the opportunity needs to pass through different gates in order to make sure that the organization is capable of delivering such unit. These gates are reviewed in weekly meetings that utilize the information and work flow of the CRM system. This process also is at the moment manual, and dependent on the right assessment of the project class. These weekly meetings were used to spread information and discuss about the more complex cases before they moved from the sales pipeline to the production process and to clarify resource requirements.

The CRM system is also used to control the back-office engineers' workload based on the coming deals, something that the engineering management was not able to do beforehand as the project communication at this stage was typically done only between the engineer and the sales person.

Visibility to all the sales opportunities and actions that need to be done before advancing the opportunities in the sales pipeline helps managing sales pipelines of market areas or individual sales personnel. At the first gate, basic financial and technical information is logged to the system. At the second gate, before offers are sent, there is a workflow depending on the approved project class. Third gate has an additional workflow for more complex projects and the fourth gate ensures that the documentation and execution of the sales project is sufficient for hand-over to production. Each stage also tasks that the sales persons are steered to complete.

Reasons for winning or losing deals had not been systematically tracked before the implementation of the CRM system. At the first stage of the implementation, the sales personnel are just asked to write shortly what was the reason for losing or winning the sale if one could be pointed out. However, the product managers decided that as the amount of closed opportunities increases over time, going through and cataloging non-structured

data will not be sensible and the data gathering will be changed to a more structured format. Gathering this information will create visibility to the demand in the market. Not only the reasons that the case company wins or loses individual opportunities but once sufficient amount of data is gathered, trends of the reasons can be used to gain better understanding about situations in different markets, competitor's offerings, price levels and disadvantages and advantages regarding different product families and branches. The information can also be utilized in new product development as visibility to customer requirements can be gauged systematically. Figure 33 shows one way of presenting the reasons for lost opportunities.

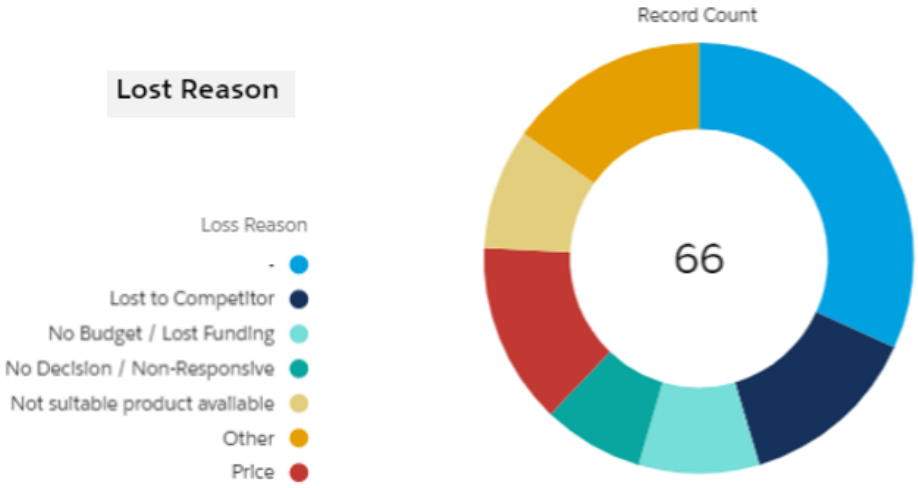

Figure 33. *Visualization of lost opportunity reasons*

Quotation strike rate (also known as hit ratio) can now be calculated. In general, the rate is still rather high. This is in part because there are many opportunities in which the case company does not participate, and also because the case company's market position in the markets in which it operates is relatively strong.

6.3 Summary of the results

The key changes that occurred in the sales process, sales management and internal visibility improvement are listed in Figure 34. Most of the changes happened to the practices of internal integration and sales managements controlling abilities. External visibility or the amount of systems or manual work needed did not change much.

Category	Issue	CRM effect
External visibility	Accuracy of information received from distributors and end customers	
	Different customer communication channels not integrated, for example sales and service not aware of each other's actions	
	Lead generation from exhibition contacts, website visits and other sources	
Internal integration	Information about upcoming deals decentralized and not available when needed for other departments	CRM functions as an information sharing center with processes set about what information should be shared and when
	Forecasting process in excels that are updated late and combined manually	Forecasting information can be filtered and combined with greater ease and extracted "live". More information available than in the old excel format
	Information about reasons deals were lost or won not available	New information gathering process enabled by the system
	Implementing a gate model for sales opportunities	Opportunities need to complete the gates during the sales process. New practices of monitoring the gate system implemented
	Back office workload distribution tracking	Visibility gained to back office workload
Sales process	Quotes, internal specifications and calculations were done manually, which left room for mistakes and extra work needed	
	Multiple information systems that are needed for calculating quotations and reporting deals	
	Compliance approval process for deals that do not abide to internal rules or limits	Compliance workflow set to the system. Provides reliable workflow and documentation of the approvals
	No visibility on sales personnel activity	Sales force activity can be tracked by sales opportunity actions

Figure 34. *CRM system effects*

The CRM system implementation solved issues related to the internal integration. Information about upcoming deals was decentralized and not available when needed. Now, the CRM system functions as an information sharing center with processes set about what information should be shared and when.

The old-fashioned forecasting processes were updated. Now, the forecasting information can be filtered and combined more easily and the information can be extracted any time without needing to wait until the end of the month to get the updated excel sheets.

New information gathering process about reasons deals were lost or won was enabled by the CRM system implementation. If the deal is lost, there's data fields that need to be filled regarding the loss reason, the competitor and unit that won the deal and the price of the deal-winning unit. This helps building a picture of the main competitors, their units and the price levels in different markets. Similarly, when a deal is won, information about the reason the deal was won is logged in.

The new gate model that the opportunities need to complete during the sales process ensures that information is shared between departments. The back-office departments also gained visibility to their workload situation as all the opportunities they were working on were assigned to an engineer responsible for the project and a project class which correlates to the amount of work the opportunity requires.

Issues related to sales process and control were also solved. The required compliance workflow was built into the system. It provides a reliable workflow and documentation of the approval requests and responses. The CRM system also enabled the sales management to track and monitor the sales force activities by the actions logged in to the system.

The change in the information flow network is small but significant: not all information flow moved out of the silo systems to the CRM system, but by defining a process that directs the key pieces of sales related information to go through the CRM, the organization can access and distribute this information more effectively. The change is depicted in Figure 35.

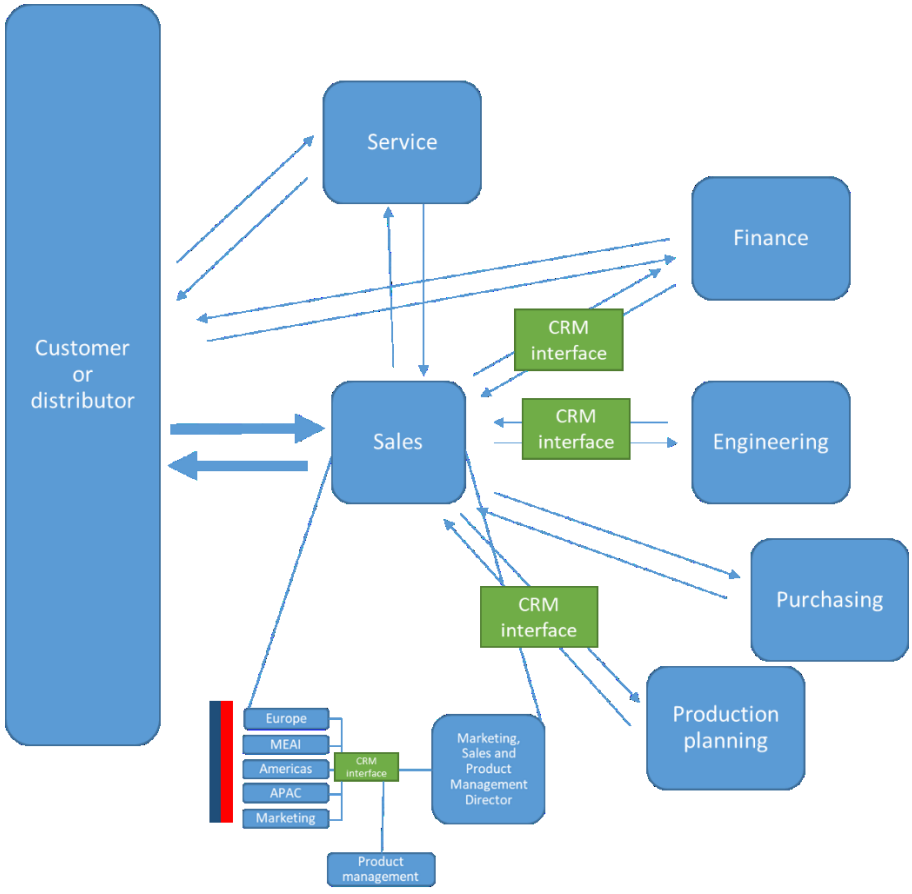

Figure 35. *Interfaces with back and front office departments*

The same interfaces could be opened also to purchasing and service departments, but the service manager saw that at current point including the service department in the CRM system would not be efficient in cost or resource point-of-view as they are already using their own service management systems in addition to the organizations ERP sys-

tem. Similarly, purchasing department gets their purchase requests from the ERP system and work closely with the engineering department who conduct most of their work within the ERP.

The CRM system did not only open up an interface between departments. It also functions as an interface inside the sales and marketing organization. Now marketing and product management have better visibility to the market actions of the sales personnel. Also, the CRM system helps in information dissemination across geographical or product line borders.

7. DISCUSSION AND LESSONS LEARNED

7.1 Overview of the problem and framework

The study's problem was defined as finding out how to increase sales management's control of the sales process and sales force and how visibility to the sales pipeline and market demand could be increased by CRM system implementation. This question was further divided to sub-question about the implementation of a CRM system and about how a CRM system can help solving problems related to visibility and control.

CRM system implementation process and success factors were studied through a literature review. The implementation process was recognized to consist of four phases. They are once again presented in Figure 36.

Figure 36. *CRM system implementation process framework*

Literature was reviewed also to answer the question of how a CRM system could be used to improve visibility and control. Based on the literature review on demand visibility and sales control a conclusion that CRM systems can create external visibility, internal integration and sales control through different methods was drawn. These methods are presented in the framework in Figure 37.

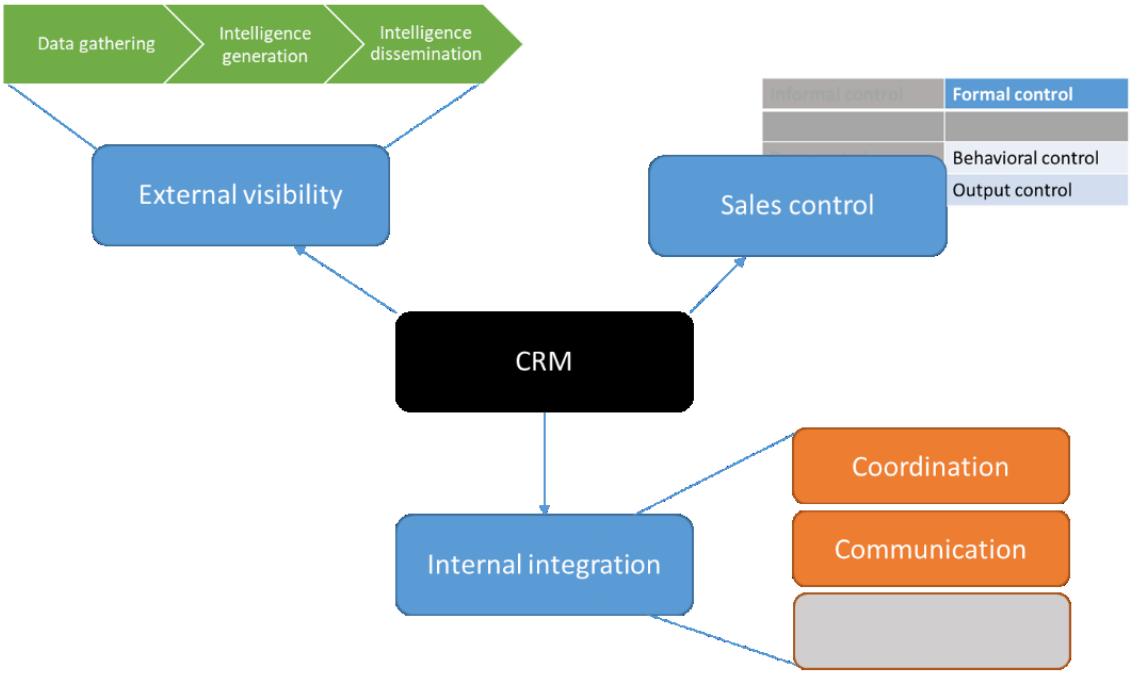

Figure 37. *Framework of CRM as a source of visibility and control*

Based on the framework CRM systems can improve external visibility through enhancing the data gathering from the demand side of the supply chain. This includes information sharing between the organization and its customers and distributors. Besides sharing information with its supply chain partners, data gathering could be done by recording information from website visits and encounters with potential customers or other actors in exhibitions and other contact points.

Internal integration is needed to disseminate the information effectively in the organization. In the literature review it was noted that internal integration is seen to have three different aspects. CRM systems can positively influence communication and coordination of actions between different departments.

Two different categories of control systems were recognized in the literature, formal and informal. CRM systems were seen as capable of affecting the sales management's methods of controlling sales force's behavior and output.

7.2 Reflection of the case in framework

Most of the empirical part of the project was done before the actual theoretical research to the subject. Because of that, and because of the relative inexperience of the project team regarding CRM systems and IT system acquirement processes in general, it is

easy to recognize differences to the framework presented and possibilities for development in the realized implementation process.

The reviewed literature about customer relationship management and CRM system implementation emphasized the importance of a systematic approach for needs analysis that starts with a thorough analysis of current pain points and creating a roadmap for the desired stages with milestone goals on the way for reaching incremental improvements that support the organizational buy-in.

In reality, the process was not as clearly defined as it should have been. The implementation process was approached in artistic manner, and thus a lot of deviations occurred. The pre-purchase process could be described as learn-as-we-go -process. The need and the goals for the project were not defined before starting the system provider evaluation process and in result of this, the scope of the project was subject to multiple changes during the evaluation. The resources wasted because of this uncertainty were not completely in vain however, as the process resulted in better understanding of what CRM systems are capable of, even though the resources available in the case company did not allow implementation of all the desired features.

The system definition, roll-out and the post-roll out process in the case company followed the recognized process flow. However, change management's, user training's and internal marketing's importance was underestimated. The attitude of the sales personnel and engineers towards the CRM system could be described by neutral at best. Some of them think of the CRM as just another tool they need to use, and some think using it is too complicated. The value of the CRM system implementation for the company should probably have been communicated better to the user base starting from the initial design and roll-out phase. On the other hand, the value for the user base is not as great as it could have been, as the system design did not eliminate all the problems that were intended to be fixed. The amount and quality of the user training was also not sufficient. More than six months after the roll-out, people still struggle with some of the functions of the system. Also, the defined changes in the sales process are still not apparently clear in the organization. Oksanen (2013) highlighted the activity and role of the main user in the adoption and system development. In the case organization it is evident that the CRM management team should have been more proactive in reaching the user base and offering them more training, finding out their problems and development ideas for the system and offering them solutions for them. Corrective actions are being taken in this area.

In the framework created CRM system was presented to be able to create demand visibility through improving data gathering, intelligence creation and intelligence dissemination. In the case company the information gathering did not improve notably, so it is difficult to estimate what kind of an impact CRM systems can have. Even though the data gathering abilities in the case company did not improve yet, ways of improving it through CRM system use were recognized in the company.

Internal integration is needed for drawing benefits from the increased demand visibility. In the framework two mechanisms of how CRM system could improve the internal integration were recognized, improving interdepartmental communication and coordination. These factors were improved after the CRM system implementation in the case company.

Lastly, the third reviewed method of how a CRM system could benefit an organization was the increased ability to control sales output and sales behavior. In the framework it was recognized that implementing a CRM system requires defining processes and steps that need to be done in the sales process. The CRM system creates visibility to the completion or result of these actions allowing the management to monitor, control and evaluate both the behavior and the output results logged into the system. In the case company a sales process with required steps was created, and it allows the sales management to form a more accurate picture of the sales force's behavior and interim metrics other than the sales generated, that was the only official metric used previously.

7.3 Limitations of the research

The research focus on the CRM implementations effect from the point of view of the sales management. The research also only focused on the immediate effects of the project – that is how the system changed management's ability to control sales process, or what kind of processes it brought to the company that can increase internal integration. There was no intention of creating actual metrics for CRM system implementation's effect on company performance.

The theoretical part of the thesis draws from a limited amount of literature sources. Thus, the results and conclusions made based on the literature review and the framework might be skewed towards the used sources.

7.4 Future development proposals

Some of the key issues that were recognized were not either considered to be in the scope of the first phase of the CRM project and some issues were not solved even though it was intended. These problems are listed below in Figure 38.

Issue	CRM effect	Development proposal
Accuracy of information received from distributors and end customers		Opening portals for trusted distributors, where they can better access the case company's information and maybe allow them to perform some tasks they needed the case company to do for them in exchange for sharing their demand information
Different customer communication channels not integrated, for example sales and service not aware of each other's actions		Information sharing between service and sales departments need to be improved by including service to the CRM system or by building integrations to the current service systems
Lead generation from exhibition contacts, website visits and other sources		Extending the CRM system integrations to the case companys webpage, implementing already existing add-ons that allow fast or automated contact information logging to the CRM system
Information about upcoming deals decentralized and not available when needed for other departments	CRM functions as an information sharing center with processes set about what information should be shared and when	
Forecasting process in excels that are updated late and combined manually	Forecasting information can be filtered and combined with greater ease and extracted "live". More information available than in the old excel format	
Information about reasons deals were lost or won not available	New information gathering process enabled by the system	
Implementing a gate model for sales opportunities	Opportunities need to complete the gates during the sales process. New practices of monitoring the gate system implemented	
Back office workload distribution tracking	Visibility gained to back office workload	
Quotes, internal specifications and calculations were done manually, which left room for mistakes and extra work needed		Integrating a Configure-Price-Quote feature into the CRM system would eliminate the manual work
Multiple information systems that are needed for calculating quotations and reporting deals		Integrating a Configure-Price-Quote feature into the CRM system would eliminate the need for multiple systems
Compliance approval process for deals that do not abide to internal rules or limits	Compliance workflow set to the system. Provides reliable workflow and documentation of the approvals	
No visibility on sales personnel activity	Sales force activity can be tracked by sales opportunity actions	

Figure 38. *Issues left unsolved*

The most notable downfall is the lack of a solution for the elimination of manual repetitive data entry into multiple systems. The ability to create customer quotations and internal specification is seen as the number one developmental project priority. Creating these documents inside the system would not only reduce the amount of work done by sales personnel and eliminate human errors, but would also improve the sales process in multiple other ways. Only being able to create and send quotes through the system would further improve sales management's visibility to the pipeline and sales activities, as well as further CRM system buy-in. The sales manager commented this issue followingly:

"Being able to build the quotation and internal specification of the products inside one system is essential for improving the quoting accuracy and reducing the workload of the sales managers and supporting engineering organization"

System-generated specifications would also make product managers' and engineering's job easier with standardized and up-to-date information about the quoted products.

Integrating a Configure-Price-Quote (CPQ) feature into the CRM software would eliminate both the manual information logging problem and reduce the sales personnel work-

load and further streamline the quote to order process by reducing the amount of systems needed. The CPQ solution would contain the product structures of the lifts and related options, the cost information and pricing rules for the different lifts, customer types, and market areas and it could be used to create documentation for both customers and the internal departments.

Improving information sharing between sales and service departments by including the service department to the CRM system or by building integrations between the CRM system and the current service systems is the second priority development suggestion. At the moment the information flow between them is not at a sufficient level. Disseminating the customer information from the service personnel better would enable the sales personnel create better relationships with the customer organizations and feedback received during maintenance and commissioning operations could help product management guide the development work to right direction and provide more customer-oriented solutions.

Opening portals for the trusted distributors to the CRM system is the tertiary development suggestion. The distributors could be given access to the case company's information and allow them to perform some tasks they previously needed the case company's personnel to do. In exchange to this access the distributors would share their demand information. This would not only benefit the distributors but also the case company as the visibility to market would increase and the amount of labor required from the sales personnel would decrease as some of their tasks would be done directly by the distributors. For example, the CPQ system could allow the distributors to make simplified quotations without needing the sales personnel's intervention.

Expanding the CRM system integrations to the case company's webpage and implementing already-existing add-ons that allow fast or automated contact information logging to the CRM system is the fourth development proposal. Leads could be generated through data gathered from the webpage visits and visitor behavior. Similarly, leads could be generated more efficiently from contacts met in exhibitions and other situations and events, if the process could be automated. Figure 39 shows a possible information sharing network structure, if these four development changes are implemented.

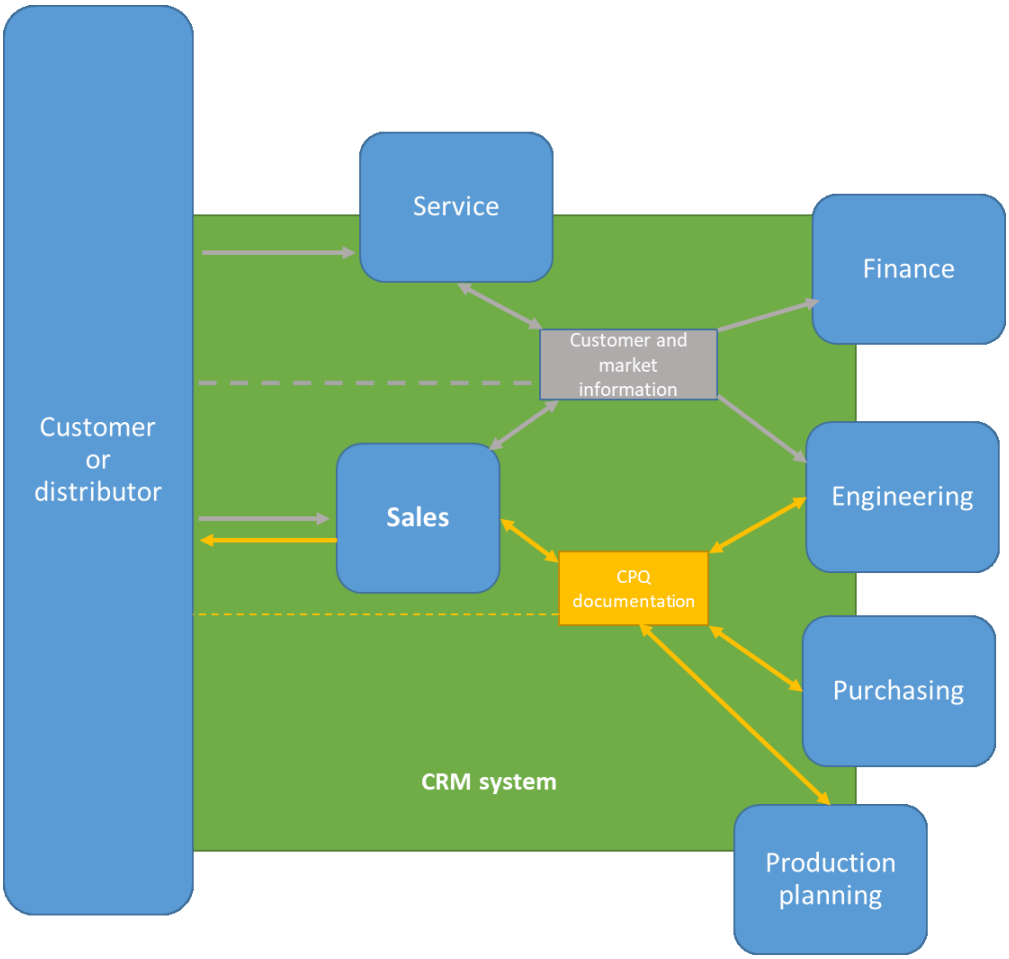

Figure 39. *Potential future CRM related information flow*

Figure 39 shows that in the suggested CRM system infrastructure the customer and market information received by both service and sales, and even the information gathered straight from the outside parties that have been allowed access to some parts of the system would be collected and analyzed by the CRM system. The information would be available to the sales and service departments but also to the back-office departments that need the information.

Similarly, the CPQ system could provide product information, specifications and quotations to sales and the trusted distributors. The related, standard form information created and stored in the system would be accessible real time to the back-office departments.

8. CONCLUSION

CRM can be understood in multiple ways ranging from a strategic approach to business with a focus on increasing customer and stakeholder value through managing and improving customer relationships to a simple technological solution for keeping track of customer data. This thesis adopted Payne's (2006) view of customer relationship management as a strategic cross-departmental function that consists of five key CRM processes that include all the departments of the organization. CRM systems are technological solutions that support these processes. Customer relationship management approach and system implementation can lead to competitive advantage for a company through, for example, better customer understanding, cost reductions through sales force automation and improved abilities to handle customer information.

The objective of the study was to find out how a CRM system implementation can improve sales management's control and visibility in an organization. In order to answer this problem a literature about sales management's challenges, sales control systems and customer relationship management system implementation was reviewed. Based on the review a framework of CRM system as a source for control and visibility was created. In the action research part of the study, a CRM system was implemented to the case organization and its effects on the organization were studied.

The framework shows that a CRM system can affect demand visibility and sales control. Three methods were found. Visibility to external market factors can be increased by improving data gathering methods and creating information from this data. Accumulating demand information can be done by gathering data from different sources, increasing the information sharing between demand chain partners and using different kinds of analytic tools to process the collected data. Creating information is not enough, but to gain benefits in planning, forecasting and decision-making, the information needs to be disseminated to the organization. Internal integration improvement can be achieved through improving intradepartmental communication and coordination. CRM systems can also open up visibility to the sales pipeline and sales force's actions that enable the sales management to monitor, evaluate and control their behavior and performance.

The study was conducted on assignment of the case company that is a Finnish manufacturing company. First, issues in the initial situations were discovered through obser-

vations and interviews. Issues related to lack of demand visibility and sales control methods were found. After finding out the issues, a CRM system implementation process was carried out in order to address these problems.

The effects of the CRM system to the organization were studied after the implementation process was completed. As a result of the study, the sales management's visibility to the sales pipeline and control of the sales force's behavior and outputs was improved and internal communication and coordination methods between sales and other departments were introduced. Future development opportunities were recognized and system improvement suggestions were made.

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